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ABSTRACT

This report on the supply of newly qualified teachers (NQTs) is based primarily on data from the Recent College Graduates (RCG) study of 1991. The survey, which was originally designed to provide information on NQTs alone, was expanded to cover graduates in all major fields of study; however, it continues to emphasize graduates qualified to teach at the elementary or secondary school level. It focuses on the number, characteristics, and teaching status of NQTs who were defined as college graduates receiving a bachelor's or master's degree between July 1, 1989, and June 30, 1990; who became eligible or certified to teach during that same period; and who had not been employed as teachers before receiving their degree. The number of NQTs who graduated from the nation's colleges and universities increased from 126,200 in 1986 to 140,500; the number at the master's level decreased by 1,000. Of the NQTs in 1991, 71 percent were female. Among NQTs, about 50 percent had a grade point average of 3.25 or above, compared to 42 percent of other bachelor's degree recipients. Fifty-nine percent of the NQTs had majored in education, about the same as the percentage in 1987 (57 percent). One year after graduation, 91 percent of the NQTs were employed, 73 percent full-time. The average annual salary for NQTs who were employed full time was $19,200 in 1991, compared to $24,200 for other bachelor's degree recipients. Of all NQTs, 85 percent were eligible or certified to teach at the elementary or secondary level. A bibliography of RCG reports and numerous text tables and figures are included. Four appendixes provide tables containing additional data referenced in text, tables with standard errors for data reported in text, technical notes, and definitions of terms and codes used in the report. (LL)

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NATIONAL CENTER FOR EDUCATION STATISTICS

Statistical Analysis Report August 1993

New Teachers in the Job Market, 1991 Update

Contractor Report

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Statistical Analysis Report August 1993

New Teachers in the Job Market, 1991 Update

Contractor Report

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August 1993

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HIGHLIGHTS

- There were an estimated 140,500 newly qualified teachers (NQTs) in 1991. This number represents an increase of 11 percent over the 1987 Recent College Graduates (RCG) study estimate of 126,200 (table 1).

- Among newly qualified teachers who received either a bachelor's or master's degree in 1989-90, the growth in the number of NQTs between 1987 and 1991 is due entirely to increases in bachelor's degree NQTs. The number of bachelor's degree NQTs was 112,100 in 1987 and 127,400 in 1991. The number of master's degree NQTs was 14,100 in 1987 and 13,100 in 1991 (table 1).

- Almost three-quarters (71 percent) of the newly qualified teachers who received bachelor's degrees were women. Among all other bachelor's degree recipients, 51 percent were women (table 2).

- Among bachelor's degree NQTs, 50 percent reported a grade point average of 3.25 or above, and among other bachelor's degree recipients, 40 percent had an average of 3.25 or above (table 2).

- Among bachelor's degree NQTs, 93 percent expected to obtain a master's degree or above, compared to 81 percent of the other bachelor's degree recipients (table 2).

- About 59 percent of bachelor's degree NQTs were education majors. Among bachelor's degree NQTs who were teaching 1 year after graduation, 72 percent were education majors (figure 5).

- One year after graduation, 91 percent of the bachelor's degree NQTs were employed. Overall, 73 percent were working full time, 6 percent were working part time and wanted part-time work, 11 percent were working part time but would have preferred full-time work, 3 percent were in the labor force but unemployed, and 6 percent were not in the labor force (figure 8).

- Among bachelor's degree NQTs who were employed 1 year after graduation, 49 percent were employed as nonsubstitute teachers in prekindergarten through 12th grade (PK-12). An additional 15 percent were employed as PK-12 substitute teachers. Eight percent were employed in administrative support including clerical, 5 percent were in education positions other than teachers and substitutes at the elementary and secondary level, 5 percent were service personnel, 4 percent were business/managers, 3 percent were sales personnel, and 10 percent were in other occupations (figure 9).

- Of all bachelor's degree NQTs, 76 percent applied for an elementary or secondary teaching job after or immediately prior to receiving their degrees. Of those who applied, 71 percent were employed as regular or substitute teachers 1 year after graduation (table 7).

- Bachelor's degree NQTs employed full time in any occupation earned an average annual salary of $19,200, compared to an average of $24,200 for other bachelor's degree recipients (table 8). Bachelor's degree NQTs with full-time nonsubstitute teaching contracts in public schools earned an average of $20,800 during the school year, and an average of $21,500 including summer income (table 11).

- Among bachelor's degree NQTs employed full time as nonsubstitute teachers, 91 percent of the elementary teachers were certified to teach elementary. For secondary teachers, the rate of certification within the subject field taught most frequently was 77 percent for English teachers, 85 percent for mathematics teachers, 84 percent for science teachers, and 77 percent for social studies teachers. For those teaching primarily in special education, the certification rate in special education was 77 percent (table 13).

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The survey was performed under contract with Westat, Inc. The Westat project team included Margaret Cahalan, project director; Lucinda Gray, survey manager; Mike Brick, senior statistician; Jacqueline Severynse, statistician; Peter Ha, Gail Wisan, and Steven Schweinfurth, analysis and sampling programming; Susan Hein, graphics; Sylvie Warren, word processing; Carol Litman, editor; Jacque Wernimont, Royce Gibson, and Nancy Hopper, CATI development; Karen Molloy, Telephone Research Center coordinator; and Stephanie Campbell and Dotty Pike, data preparation. The study benefited from the corporate support and encouragement of Westat vice president Lance Hodes.

Helpful review of the survey report was provided by external reviewers Mary Dilworth, American Association of Colleges for Teacher Education, and Todd Endo, National Education Association, and by Office of Educational Research and Improvement reviewers Sharon Bobbitt, Joyce Murphy, and Gayle Rogers.

We especially acknowledge with gratitude the 400 higher education institutions that provided the information necessary to draw the sample of graduates and the 14,000 graduates who took time to respond to the survey and to provide the information upon which this report is based.

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INTRODUCTION

This report summarizes findings from the Recent College Graduates study, with a focus on the number, characteristics, and labor force and teaching status of newly qualified teachers (NQTs). The National Center for Education Statistics (NCES) conducted the Recent College Graduates (RCG) study for the first time in 1976. Since that time, surveys have been completed in 1978, 1981, 1985, 1987, and 1991. The series was initially begun in response to a congressional mandate to provide information on the supply of new teachers. Since then the focus of the series has been broadened to include graduates in all major fields of study; however, the survey continues to have a special emphasis on newly qualified teachers.[1]

Issues concerning the supply of teachers in the United States are of continuing interest to education policymakers. These issues include the perceived need to increase the supply of teachers, and the contribution to that supply that newly qualified teachers (as defined in this study) make. Other issues of interest in an economy in which local and state government revenues are not increasing and additional demands are being placed on these limited resources include (1) the ability of newly qualified teachers seeking full-time teaching jobs to obtain these jobs; (2) trend comparisons of newly qualified teachers' salaries compared to salaries of other bachelor's degree recipients; and (3) the employment of newly qualified teachers in fields other than those in which they are eligible or certified.

This report does not address the issue of teacher demand, nor does it address all sources of teachers. Rather, it provides information on one source of teachers, those individuals who obtained a bachelor's or master's degree in the 1989-90 academic year who fit the definition of newly qualified teachers given below. Specifically, this report addresses the following questions with regard to these newly qualified teachers in 1991:

- What was the number of newly qualified teachers and how does this number compare with previous years?
- What were the characteristics of newly qualified teachers compared with other recent graduates?
- What were the major fields of study of newly qualified teachers?
- What was the labor market status of newly qualified teachers compared with other graduates?
- What was the average annual salary of newly qualified teachers compared with other graduates?
- To what extent were newly qualified teachers employed as teachers?

Definition of Newly Qualified Teachers (NQTs). In the earlier reports in the RCG series and in RCG 1991, newly qualified teachers are defined as college graduates receiving a bachelor's or master's degree between July 1, 1989, and June 30, 1990, and meeting one of the following criteria: (1) became *eligible* (defined as completing coursework and requirements necessary for regular or standard certification) to teach at some level of prekindergarten through grade 12 (PK-12) between July 1989 and June 1990, and had not taught prior to receiving the 1989-90 degree; (2) became *certified* (includes all types of certification) to teach at some level of PK-12 between July 1989 and June 1990, and had not taught prior to receiving the 1989-90 degree; (3) had taught at some level of PK-12 since graduation and had not taught prior to receiving the 1989-90 degree. It should be noted that only one of these conditions needs to be met to be classified as an NQT, and that the definition includes those who became eligible or certified in the time period and had not taught prior to their degree, *whether or not they had taught since graduation.* The definition also includes those who are *not eligible or certified but had taught for the first time at some time since graduation.*

The definition of NQTs thus includes about 19,000 (15 percent of total NQTs) 1989-90

bachelor's graduates who did not report that they were eligible or certified to teach, but had taught for the first time at some time since their graduation. Most of these were not engaged in teaching as a primary job at the time of the survey. Only 5 percent of the total NQTs were non-eligible and not certified and also reported teaching as their primary job at the time of the survey. (Appendix table A-1 presents characteristics of the non-eligible or certified group compared with the total NQTs).

The inclusion within the definition of NQTs of those graduates who had taught at some time since receiving their degree, but who were not eligible or certified to teach is somewhat controversial, since they were not "qualified to teach" in terms of certification. However, this group should be considered a part of the supply of new teachers because they began teaching for the first time since recieving their degree. For this reason, the 1991 RCG definition of NQTs includes this group. In addition, this definition maintains consistency with previous RCG reports.

Methodology. Results are based on a nationally representative sample of 16,172 bachelor's degree recipients and 1,963 master's degree recipients receiving degrees between July 1989 and June 1990. The weighted graduate response rate was 83 percent.[2] Data were collected over the phone by means of a Computer Assisted Telephone Interview (CATI) survey conducted between July and December 1991. Respondents answered employment questions for the week of April 22, 1991, approximately 1 year after their graduation. All differences cited among the 1991 RCG data are significant at the 95 percent confidence level with pair-wise *t* tests using a Bonferroni adjustment for multiple comparisons (see Appendix C for a more detailed discussion of methodology).[3]

Type of Major Classification. In this and previous RCG reports, major fields of study have been grouped for certain analysis into three broad categories: professional fields, arts and sciences fields, and other fields. In this classification, education majors are combined with engineering, health professions, and public affairs/social services to make up the professional field category. Arts and sciences include the major fields of biological sciences, math, computer sciences and physical sciences, social sciences, history, humanities, and psychology. About 66 percent of NQTs are in the professional major category, 28 percent are in the arts and sciences, and 6 percent are in the other fields.[4]

Other Classifications Used in this Report. The report presents data on the total number of NQTs, including master's graduates (master's graduates were about 9 percent of the total NQTs in 1991). However, data reported on the characteristics and status of NQTs 1 year after graduation includes only bachelor's recipients. Data for bachelor's recipients are presented by gender, race/ethnicity, age, major field of study, parents' education, grade point average, educational aspirations, and occupational and teaching status. See Appendix B for detailed tables, and Appendix D for definitions.

Previous RCG Studies. Throughout this report selected summary statistics are given from previous RCG studies on NQTs. The reader is referred to previous reports (listed in the bibliography) for detailed information on these years. Data files for further analysis are available from the National Center for Education Statistics for RCG studies conducted in the years 1976, 1978, 1981, 1985, 1987 and 1991.[5]

Report Structure. The report consists of three major sections. The first section focuses on the number and characteristics of NQTs. The second section presents information on the labor force and teaching status of NQTs, including salary information. The third section focuses on teacher eligibility and certification to teach.

NUMBER AND CHARACTERISTICS OF NEWLY QUALIFIED TEACHERS

Number of Newly Qualified Teachers

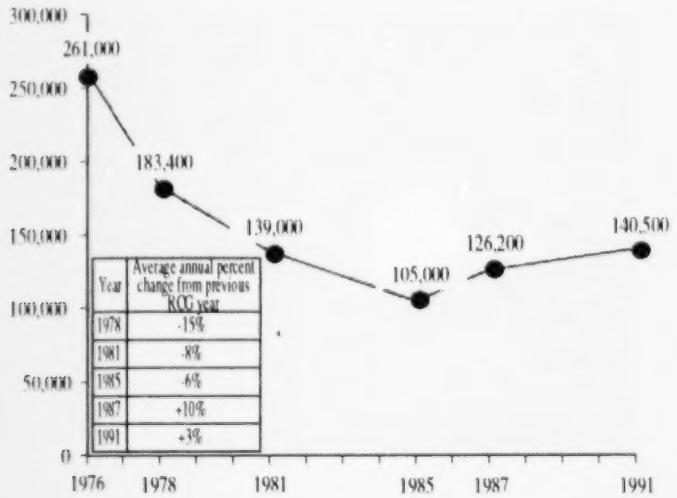
There were an estimated 140,500 newly qualified teachers in 1991 (table 1). This number represents an increase of 11 percent over the 1987 RCG study estimate of 126,200 (figure 1). Among RCG studies, the 1987 study recorded the first increase in the number of newly qualified teachers since 1976. As can be seen from figure 1, the number of NQTs fell dramatically in the 1970's and early 1980's, from 261,000 in 1976 to 105,000 in 1985. The decline between 1976 and 1985 represented a decrease of 56 percent at a time when the percentage of bachelor's degrees granted rose by 5 percent.

Table 1.--Trends in the total number of newly qualified teachers (NQTs): RCG study years 1976-91

Academic year of graduation	Year of RCG study	Newly qualified teachers (NQTs)			All bachelor's degrees	Percent of bachelor's recipients who are NQTs
		Total	Master's	Bachelor's		
1974-75 .	1976 . . .	261,000	34,000	227,000	922,900	24.6
1976-77 .	1978 . . .	183,400	12,300	171,100	919,500	18.6
1979-80 .	1981 . . .	139,000	6,800	132,200	929,400	14.2
1983-84 .	1985 . . .	105,000	6,300	98,700	974,300	10.1
1985-86 .	1987 . . .	126,200	14,100	112,100	987,800	11.3
1989-90 .	1991 . . .	140,500	13,100	127,400	1,049,700	12.1

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Recent College Graduate Surveys*, 1976, 1978, 1981, 1985, 1987, and 1991; *Digest of Education Statistics*, 1991.

Figure 1. The number of newly qualified teachers (NQTs): RCG study years 1976-91



SOURCE: U.S. Department of Education, National Center for Education Statistics, *Recent College Graduates Survey, 1991.*

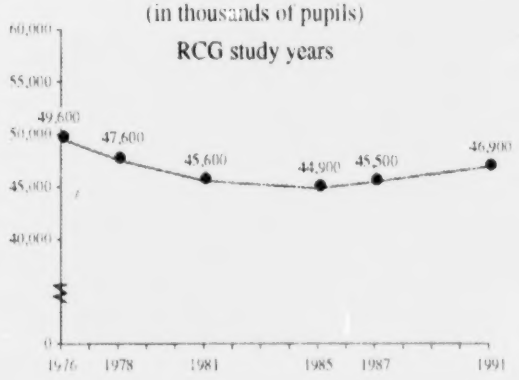
In 1976, NQTs were about 25 percent of all bachelor's degree recipients. This percentage had fallen to only 10 percent in 1985. In 1991, NQTs were about 12 percent of bachelor's degree recipients (table 1).

The growth in NQTs between 1987 and 1991 was due entirely to increases in bachelor's NQTs. The number of master's NQTs stayed about the same (14,100 in 1987 and 13,100 in 1991). In 1991, about 9 percent of the NQTs were master's degree recipients.[6]

As can be seen from figure 2a, the increases in the number of NQTs after 1985 accompanied the small increases in K-12 enrollment occurring since 1985. After substantial increases for several decades, the enrollment of public and private K-12 pupils peaked around 1970 at 51.3 million and then began declining to a 15-year low of 44.9 million in 1985. By 1991, enrollment had increased again to an estimated 46.9 million pupils, but remained lower than in 1970.[7]

During the same period the number of K-12 teachers, after almost doubling between 1955 and 1970, stabilized, at 2.45 million in 1975 and 2.55 million in 1985. Consistent with the finding that NQTs had increased since 1985, by 1991, the estimated number of total teachers had also increased to 2.83 million (figure 2b).[8]

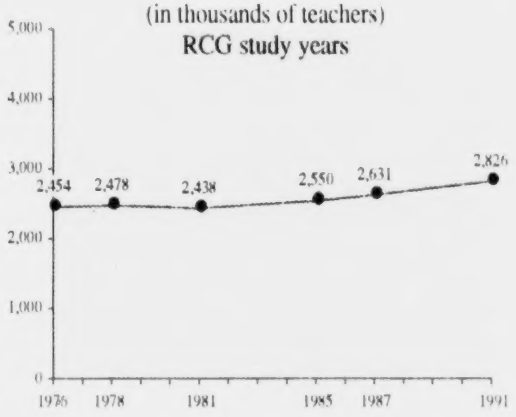
Figure 2a. Estimated number of public and private elementary and secondary school pupils: selected years 1955-91



Year	Enrollment	Percent change
1955	35,200	---
1960	42,200	20%
1965	48,500	15%
1970	51,300	6%
1975	49,800	-3%
1980	46,200	-7%
1985	44,900	-3%
1990	46,100	3%

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics*, 1991, table 59.

Figure 2b. Estimated number of public and private elementary and secondary school teachers: selected years 1955-91



Year	Teachers	Percent change
1955	1,286	---
1960	1,600	24%
1965	1,933	21%
1970	2,288	18%
1975	2,451	7%
1980	2,485	1%
1985	2,550	3%
1990	2,744	8%

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics*, 1991, table 59.

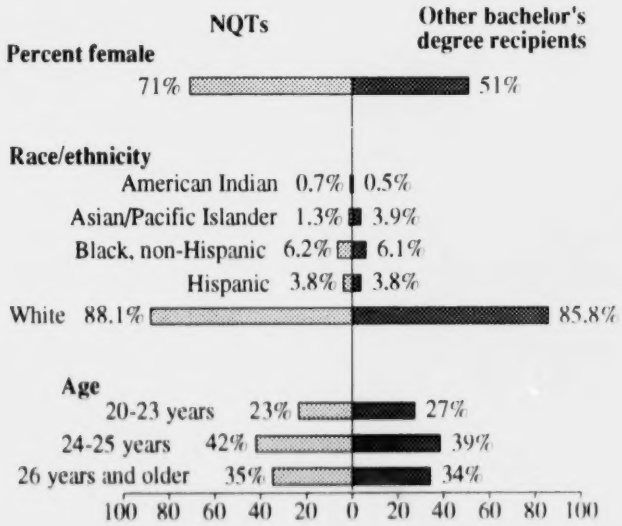
Demographic Characteristics of Newly Qualified Teachers

Gender. Almost three-quarters (71 percent) of NQTs in 1991 were female (table 2 and figure 3). This figure represented little change from 1987 when 73 percent of the NQTs were female. An examination of the characteristics of the NQTs who are certified or eligible, compared with those not eligible or certified, indicates that males had a higher representation among the NQTs that were not eligible or certified (43 percent of NQTs who were not eligible or certified were male, while only 27 percent of NQTs who were eligible or certified were male; see Appendix table A-1).

Race/ethnicity. The distribution of NQTs by race/ethnicity differed from that of the other bachelor's degree recipients primarily in the smaller percentage of Asian graduates that were NQTs (figure 3). Only 1.3 percent of the NQTs were Asian, while Asians made up 3.9 percent of the other bachelor's degree recipients. Hispanics and blacks were represented among NQTs at about the same proportion as they were represented among other bachelor's degree recipients (6.2 percent of NQTs were black and 6.1 percent of other bachelor's degree recipients were black; and 3.8 percent of both NQTs and other bachelor's degree recipients were Hispanic).

While the proportion of NQTs that were black and Hispanic was not significantly different than other bachelor's degree recipients, the percentages are far below the percentage of pupils in U.S. schools who were black and Hispanic. Nationwide about 16 percent of public school pupils were black; about 10 percent were Hispanic; about 2.8 percent were Asian or Pacific Islander; and about .9 percent were American Indian or Native Alaskan.[9] Among the total number of public school teachers an estimated 8 percent were black; 2.9 percent were Hispanic; .9 were Asian or Pacific Islander, and 1 percent were American Indian or Native Alaskan.[10]

Figure 3. Demographic characteristics of newly qualified teachers (NQTs) and other 1989-90 bachelor's degree recipients: 1991



SOURCE: U.S. Department of Education, National Center for Education Statistics, *Recent College Graduate Survey*, 1991.

Table 2.--Characteristics of newly qualified teachers (NQTs) and other bachelor's degree recipients: 1987 and 1991

Selected characteristics	1987		1991		
	Bachelor's NQTs	Other bachelor's degree recipients	Bachelor's NQTs	Other bachelor's degree recipients	Total bachelor's degree recipients
Total (number)	112,100	821,100	127,430	922,227	1,049,700
Total (percent)	100.0%	100.0%	100.0%	100.0%	100.0%
Age[1]					
20-23	36.0	34.8	23.4	27.4	26.9
24-25	34.6	35.1	42.0	38.5	38.9
26 and older	29.4	30.1	34.7	34.1	34.2
Gender					
Males	27.4	52.2	29.0	49.3	46.8
Females	72.6	47.8	71.0	50.7	53.2
Race and ethnicity					
American Indian/Native Alaskan	0.6	0.9	0.7	0.5	0.5
Asian/Pacific Islander	1.2	2.8	1.3	3.9	3.6
Black, non-Hispanic	5.0	4.3	6.2	6.1	6.1
Hispanic[2]	4.8	3.3	3.8	3.8	3.8
White, non-Hispanic	87.8	87.6	88.1	85.8	86.0
Marital status					
Single	61.4	68.3	59.6	71.2	69.8
Married	34.8	28.0	36.1	24.5	25.9
Separated, divorced, or widowed	3.9	3.8	4.4	4.3	4.3
Highest level of father's education					
High school diploma or less	42.4	36.7	47.3	41.5	42.2
Vocational or technical	6.8	6.9	1.8	2.1	2.1
College education	31.1	35.5	29.5	33.6	33.1
Postbaccalaureate education	19.8	21.0	21.4	22.8	22.7
Highest level of mother's education					
High school diploma or less	48.1	46.5	51.9	48.3	48.7
Vocational or technical	9.2	10.6	4.4	5.1	5.0
College education	34.3	34.3	34.6	36.2	36.0
Postbaccalaureate education	8.4	8.6	9.1	10.4	10.2
Educational expectations					
Bachelor's degree	10.2	22.8	7.2	18.6	17.2
Master's degree	68.2	57.0	72.9	60.1	61.7
Doctoral degree	19.3	11.8	16.6	12.9	13.3
First-professional degree	2.2	8.4	3.3	8.4	7.8
Grade point average					
3.75-4.00	13.4	11.5	14.0	9.7	10.2
3.25-3.74	34.4	30.5	35.8	30.4	31.0
2.75-3.24	37.7	37.3	38.6	42.6	42.1
2.25-2.74	12.8	17.5	10.2	14.6	14.0
1.75-2.24	1.7	3.1	1.1	2.3	2.1

[1]For the 1987 study, the graduate's age at the time the survey was administered (about 16-22 months after graduation) is reported. For the 1991 study, the graduate's age as of December 31, 1991 (about 19 months after graduation) is reported.

[2]Hispanics may be of any race.

NOTE: Percentages may not add to 100 due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Recent College Graduates Surveys*, 1987 and 1991.

Marital Status. A larger percentage of newly qualified teachers were married than were other bachelor's degree recipients (36 percent of newly qualified teachers compared with 24 percent of other bachelor's degree recipients; table 2). There were larger differences between female NQTs and other female bachelor's degree recipients than among male NQTs and other male bachelor's degree recipients in marital status. Thirty-nine percent of female NQTs were married compared with 26 percent of other female bachelor's recipients, and 30 percent of male NQTs were married compared with 24 percent of male other bachelor's degree recipients (table 3).

Table 3.--Newly qualified teachers (NQTs) and other bachelor's degree recipients, by gender and marital status: 1991

Marital status	NQTs		Other bachelor's degree recipients	
	Male	Female	Male	Female
Total	100.0	100.0	100.0	100.0
Single	69.3	55.6	74.4	68.1
Married	29.7	38.7	23.5	25.5
Divorced, separated, or widowed	0.9	5.7	2.1	6.4

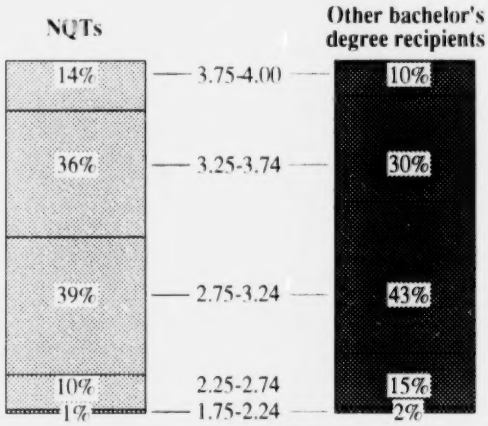
NOTE: Percentages may not add to 100 due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Recent College Graduates Survey*, 1991.

Educational Characteristics of Newly Qualified Teachers

Grade Point Average. NQTs had a slightly higher self-reported grade point average distribution than other bachelor's degree recipients (table 2 and figure 4). Among NQTs, about 50 percent had a grade point average of 3.25 or above, and among other bachelor's recipients, 40 percent had an average of 3.25 or above.

Figure 4. Percentage distribution of grade point average of newly qualified teachers (NQTs) and other bachelor's degree recipients: 1991



SOURCE: U.S. Department of Education, National Center for Education Statistics, *Recent College Graduates Survey, 1991*.

Major Field of Study. Overall 12 percent of all bachelor's degree recipients were NQTs. In 1991, the percentages of NQTs among each major field ranged from 71 percent for education majors to .7 percent for engineering majors (table 4). About 14 to 15 percent of humanities and history majors were NQTs and 8 to 9 percent of biological science and math, computer sciences, and physical sciences majors were NQTs. As might be expected only 2 percent of business and management and health majors were NQTs.

The percentage of total NQTs majoring in education was 59 percent (figure 5). This percentage is down from 71 percent in 1985, and was similar to that found in 1987 -- 57 percent. If NQTs who were not teaching 1 year after graduation are excluded, a larger percentage, 72 percent, were found to be education majors. The percentage grows to 77 percent if only those NQTs who are certified or eligible and teaching 1 year after graduation are included (figure 5).

Table 4.--Total number of bachelor's degree recipients and number and percent of all bachelor's degree recipients who are newly qualified teachers (NQTs), by major field of study: 1987 and 1991

Major field of study	Bachelor's degree recipients, 1991	Bachelor's NQTs, 1991	Percent NQTs in 1991	Percent NQTs in 1987[3]
Total	1,049,657	127,430	12.1	12.0
Professional fields	538,960	83,951	15.6	14.8
Business and management	252,976	4,720	1.9	1.6
Education	104,715	74,625	71.3	75.9
Engineering	81,747	583	.7	2.8
Health professions	67,238	1,550	2.3	5.3
Public affairs/social services	32,285	2,472	7.7	5.2
Arts and sciences fields	380,666	35,290	9.3	9.0
Biological science	44,684	3,558	8.0	6.6
Math, computer sciences, and physical sciences	58,644	5,420	9.2	6.4
Social sciences	101,003	4,993	4.9	6.7
Humanities[1]	98,355	13,889	14.1	14.8
Psychology	54,982	4,050	7.4	9.9
History[1]	22,997	3,379	14.7	NA
Other fields[2]	130,030	8,190	6.3	7.2

[1]History was included in Humanities in 1987. In 1991 History was separately categorized, and was not included in Humanities.

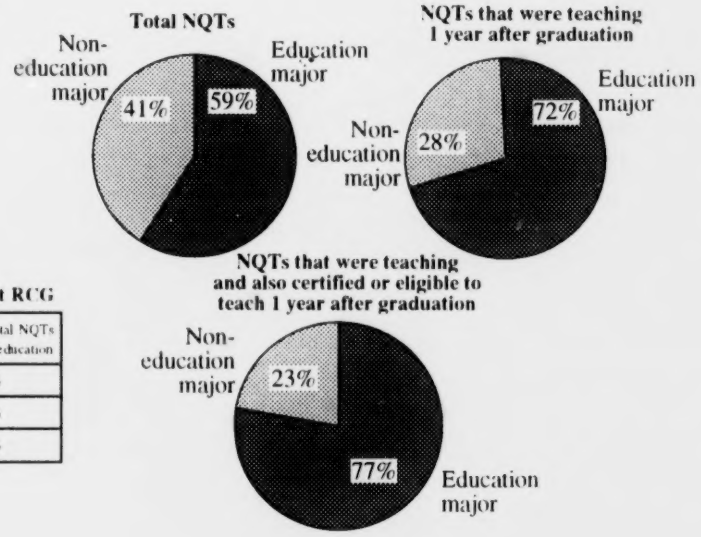
[2]See endnote 4 for a listing of the fields included in the category "other fields."

[3]In 1987 there were an estimated 112,100 bachelor's NQTS and 987,000 total bachelor's degrees awarded (see table 1).

NOTE: Details may not add to totals due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Recent College Graduates Surveys*, 1987 and 1991.

Figure 5. Percentage of newly qualified teachers (NQTs) that were education majors: 1991



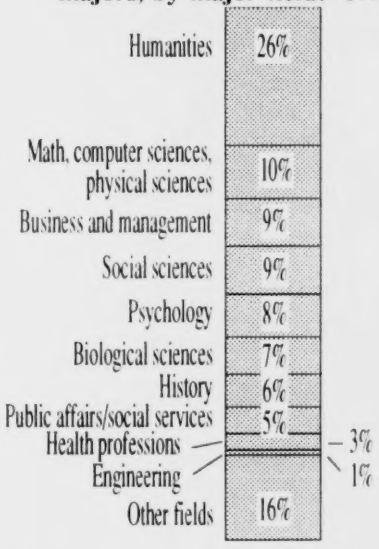
Past and current RCG

Year	Percent of total NQTs majoring in education
1985	71%
1987	57%
1991	59%

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Recent College Graduates Surveys*, 1985, 1987, 1991.

Among the 41 percent of the total NQTs who were not education majors, about one-fourth (26 percent) were humanities majors and 10 percent were math, computer sciences, and physical sciences majors (figure 6). The remaining 64 percent were widely distributed among the other major field categories (figure 6).

Figure 6. Percentage distribution of the 41 percent of newly qualified teachers (NQTs) who were not education majors, by major field: 1991

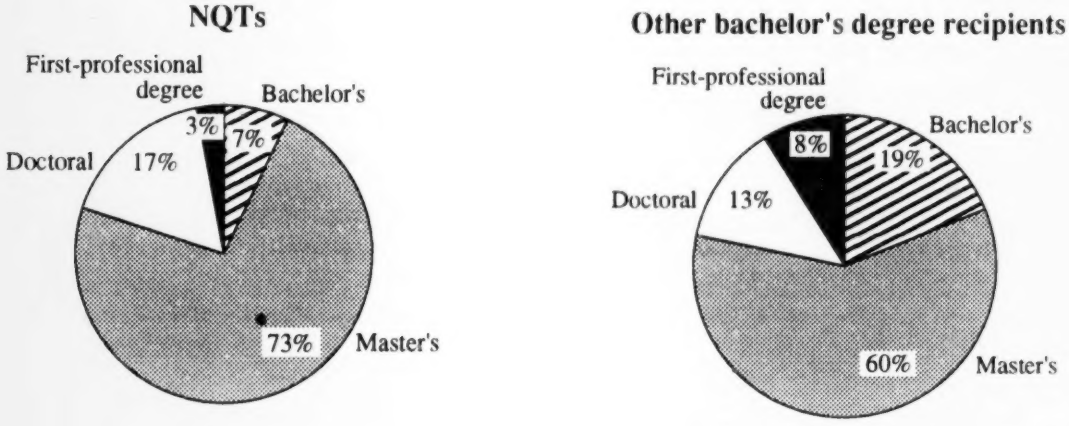


SOURCE: U.S. Department of Education, National Center for Education Statistics, *Recent College Graduates Survey*, 1991.

Parents' Education. Among 1990 graduates, 56 percent had fathers with some college or postbaccalaureate education, and 46 percent had mothers with some college or postbaccalaureate education (table 2). The distribution of father's education indicates that a slightly lower percentage of NQTs had fathers with college or postbaccalaureate education than did other bachelor's degree recipients. Fifty-six percent of other bachelor's compared with 51 percent of NQTs had college-educated fathers. About 44 percent of NQTs had college-educated mothers compared with 47 percent of other bachelor's degree recipients.

Educational Expectations. Newly qualified teachers had somewhat higher educational expectations than other recent graduates (table 2 and figure 7). Only 7 percent of NQTs expected that a bachelor's degree would be their highest degree compared with 19 percent of other bachelor's recipients. Seventy-three percent of NQTs expected that a master's would be their highest degree compared with 60 percent of other bachelor's recipients. About 17 percent of NQTs expected to obtain a doctoral degree compared with 13 percent of other bachelor's degree recipients.

Figure 7. Educational aspirations of newly qualified teachers (NQTs) and other 1989-90 bachelor's degree recipients: 1991



NOTE: Percentages may not add to 100 due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Recent College Graduates Survey*, 1991.

LABOR FORCE, TEACHING, AND SALARY STATUS OF NEWLY QUALIFIED TEACHERS 1 YEAR AFTER GRADUATION

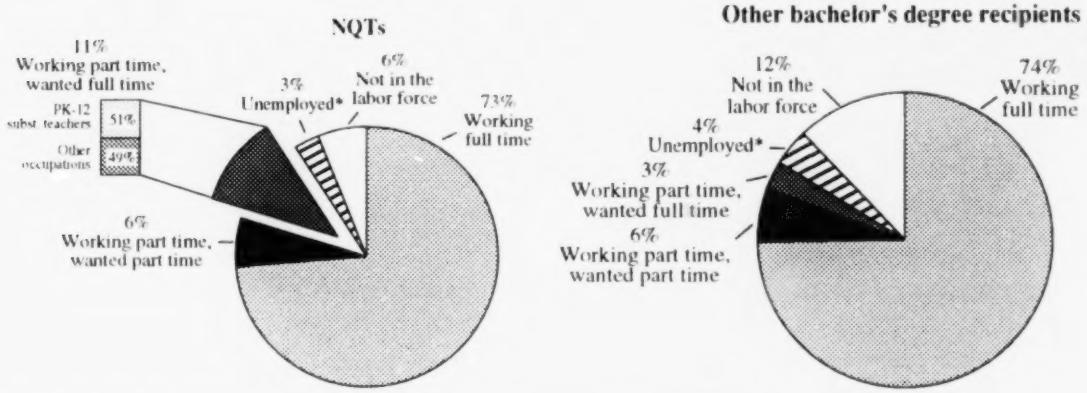
Labor Force Status

One year after graduation, 91 percent of the newly qualified teachers were employed. Overall, 73 percent were working full time, 6 percent were working part time and wanted part-time work, 11 percent were working part-time but would have preferred full-time work, 3 percent were unemployed,[11] and 6 percent were not in the labor force (figure 8).

The labor force status of NQTs was similar to the status of other bachelor's degree recipients in several ways. The percentage of graduates working full time did not differ significantly between the two groups (73 percent of NQTs and 74 percent of other bachelor's recipients were working full time; figure 8). Similarly, the percentage of NQTs working part time who wanted part-time work was the same as for other bachelor's recipients (6 percent).

However, there were two important differences in the labor force experience of NQTs compared to that of other bachelor's recipients. First, the percentage of graduates working part time who wanted full-time work was more than three times larger for NQTs than for other bachelor's recipients (11 percent compared to 3 percent). This difference may be partially due to the availability of substitute teaching jobs. Over half (51 percent) of the part-time NQTs who wanted full-time work were substitute teachers at the elementary or secondary level (figure 8).

Figure 8. Percentage distribution of labor force status for newly qualified teachers (NQTs) and other bachelor's degree recipients 1 year after graduation: 1991



*This is the percent unemployed and is not comparable to the unemployment rate published by the U.S. Department of Labor.

NOTE: Percentages may not add to 100 due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Recent College Graduates Survey*, 1991.

The second major difference between NQTs and other bachelor's recipients was in the percentage of graduates not in the labor force: the 6 percent of NQTs not in the labor force was about half as large as the other bachelor's recipients in the same situation (12 percent; figure 8 and table 5).[12] This reflects the fact that among graduates who were attending school 1 year after graduation, NQTs were more likely than other bachelor's recipients to combine school and working. Thus, while NQTs had a slightly higher school enrollment rate than other bachelor's recipients (39 percent compared to 34 percent), NQT students were more likely to be working and less represented in the "not in the labor force" category than were other bachelor's degree students. The percentage of graduates enrolled in school and not working was 6 percent for NQTs, compared to 11 percent for other bachelor's recipients (Appendix table B-6).

Table 5.--Percentage of newly qualified teachers (NQTs) and other bachelor's degree recipients who were not in the labor force 1 year after graduation, by type of major field: 1991

Type of major field	Not in labor force		
	Total	NQTs	Other bachelor's degree recipients
Total	11.7%	6.4%	12.4%
Professional fields	6.7	4.8	7.1
Arts and sciences	19.2	9.4	20.2
Other fields*	10.3	--	10.3

*See endnote 4.

--Too few cases for a reliable estimate.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Recent College Graduates Survey*, 1991.

Comparisons of Labor Force Status to Previous Survey Cycles. The labor force status of NQTs in 1991 was similar to previous years, with some change from 1987 in the distribution of full- and part-time employment (table 6). The percentage of NQTs employed full time was slightly larger in 1991 than in 1987 (73 percent compared to 69 percent), with a corresponding decrease in the percent employed part time (17 percent in 1991 and 20 percent in 1987). The percentage unemployed was the same for both years (3 percent), and the percentage not in the labor force decreased slightly from 8 percent in 1987 to 6 percent in 1991. The overall percentage of employed bachelor's degree recipients who were not NQTs remained virtually unchanged in 1985, 1987, and 1991.

Table 6.--Labor force status of newly qualified teachers and other bachelor's degree recipients 1 year after graduation: 1978, 1981, 1985, 1987, 1991

Labor force status	RCG Survey Year				
	1978	1981	1985	1987	1991
Newly qualified teachers					
Employed full time	72%	76%	74%	69%	73%
Employed part time	15	15	19	20	17
Unemployed	4	3	2	3	3
Not in the labor force	9	6	5	8	6
Other bachelor's recipients					
Employed full time	67	70	73	74	74
Employed part time	13	11	11	10	10
Unemployed	4	4	4	4	4
Not in the labor force	16	15	12	11	12

NOTE: Percentages may not add to 100 due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Recent College Graduates Surveys*, 1978, 1981, 1985, 1987, 1991.

Job Characteristics

Types of Occupations Obtained by NQTs. Of the 91 percent of NQTs employed 1 year after graduation (1991), half (49 percent) were employed as nonsubstitute teachers[13] in prekindergarten through 12th grade (figure 9). An additional 15 percent were employed as substitute teachers at the elementary/secondary level. Approximately 8 percent were employed in administrative support including clerical. Five percent were employed in education positions other than as teachers and substitutes at the elementary/secondary level. An additional 5 percent were employed as service personnel, 4 percent as business/managers, and 3 percent as sales personnel. No other occupation category contained 3 percent or more of the employed NQTs.

Of the NQTs in the elementary/secondary teacher category, 93 percent were employed full time. Of the substitute teachers, half (49 percent) were employed full time. The full-time employment rate within the remaining occupation categories ranged from 66 percent for service personnel, to 95 percent for business/managers.

Job Perceptions of Employed Graduates. Employed newly qualified teachers were somewhat more likely to be actively looking for a different principal job 1 year after graduation than were employed bachelor's degree recipients who were not NQTs. An estimated 31 percent of the NQTs were actively looking for a different principal job, compared to 23 percent of the other bachelor's recipients (figure 10). This difference is partially due to the higher level of NQTs working part time, since the difference is reduced when only those working full time are included. For graduates employed full time, 26 percent of NQTs and 21 percent of other bachelor's recipients were actively looking for a different principal job (Appendix table B-6).

Newly qualified teachers were more likely than other bachelor's degree recipients to work in jobs for which a 4-year college degree was required (74 percent compared to 53 percent), and in jobs related to their major fields of study (82 percent compared to 75 percent). Both NQTs and other bachelor's recipients had a high rate of employment in jobs with career potential (80 percent for NQTs and 79 percent for other bachelor's).

Figure 9. Percentage distribution of type of occupation for newly qualified teachers (NQTs) employed 1 year after graduation: 1991

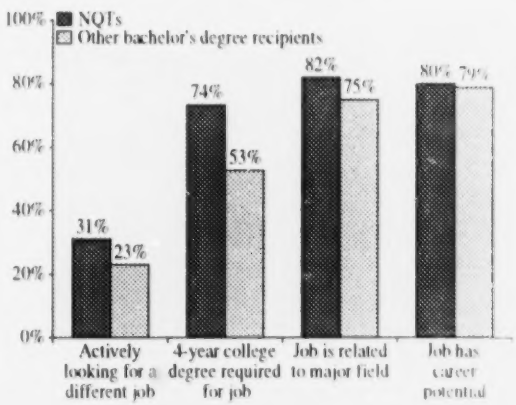
Type of occupation	Percent Employed	
	Full time	Part time
PK-12 Teachers nonsubstitutes	93%	7%
PK-12 Substitute teachers	49%*	51%
Administrative support	81%	19%
Other educators	67%	33%
Service personnel	66%	34%
Business/managers	95%	5%
Sales personnel	75%	25%
Other occupations	82%	18%

*PK-12 Substitute teachers employed full time are those who reported substitute teaching in Q87 and full-time employment in Q32.

NOTE: Percentages may not add to 100 due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Recent College Graduates Survey, 1991*.

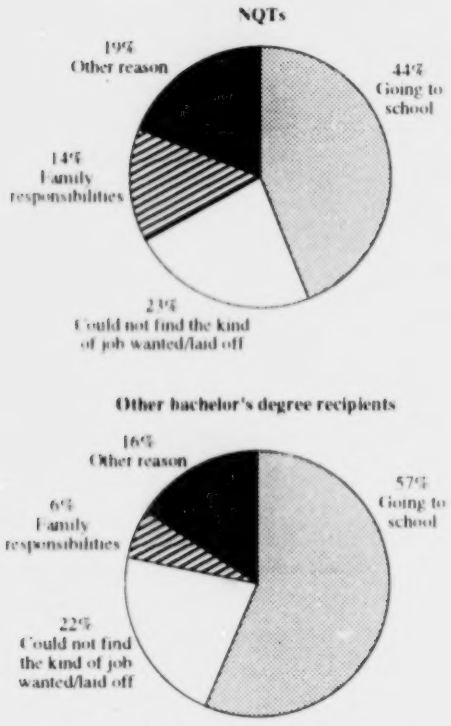
Figure 10. Job characteristics of newly qualified teachers (NQTs) and other bachelor's degree recipients 1 year after graduation: 1991



SOURCE: U.S. Department of Education, National Center for Education Statistics, *Recent College Graduates Survey, 1991*.

Reasons Graduates Were Not Working. For both NQTs and other bachelor's recipients who were not working (unemployed or not in the labor force) 1 year after graduation, "going to school" was the main reason cited for not working (cited by 44 percent of NQTs and 57 percent of other bachelor's recipients; figure 11). Almost one-fourth of the graduates who were not working (23 percent of NQTs and 22 percent of others) could not find the kind of job they wanted or had been laid off. "Family responsibilities" was cited as the main reason for not working by 14 percent of NQTs and 6 percent of other bachelor's recipients.

Figure 11. Percentage distribution of main reason not working for newly qualified teachers (NQTs) and other bachelor's degree recipients who were not working 1 year after graduation: 1991



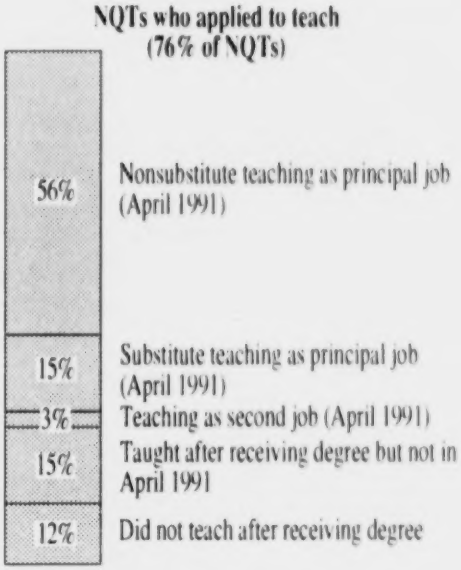
NOTE: Percentages may not add to 100 due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Recent College Graduates Survey, 1991*

Teaching Status of NQTs

NQTs Who Applied To Teach. Overall, 76 percent of 1989-90 NQTs applied for an elementary or secondary teaching job after or immediately prior to receiving their degree (figure 12). Of those who applied, over half (56 percent) had nonsubstitute elementary/secondary teaching as their principal job 1 year after graduation. An additional 15 percent had principal jobs as elementary/secondary substitute teachers. Three percent had teaching as their second job 1 year after graduation. It appears that some NQTs obtained short-term teaching jobs, since 15 percent of those who applied had taught after receiving their degree, but were not teaching in April 1991. Only 12 percent of those who applied did not teach at all at the elementary or secondary level after receiving their degree.

Figure 12. Percentage distribution of the teaching status since degree receipt for newly qualified teachers (NQTs) who applied for a teaching job: 1991


NQTs who applied to teach
(76% of NQTs)
56%
Nonsubstitute teaching as principal job (April 1991)
15%
Substitute teaching as principal job (April 1991)
3%
Teaching as second job (April 1991)
15%
Taught after receiving degree but not in April 1991
12%
Did not teach after receiving degree

NOTE: Percentages may not add to 100 due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Recent College Graduates Survey, 1991.*

The percentage of NQTs who applied to teach was lower in the 1991 survey than in the 1985 and 1981 surveys (76 percent in 1991 compared to 86 percent in 1985 and 85 percent in 1981; table 7). Of those who applied, the percentage teaching 1 year after graduation ranged from 71 to 78 percent in the survey years 1978, 1981, 1985, and 1991.

NQTs Who Did Not Apply to Teach. Overall, 24 percent of NQTs did not apply for a teaching job after or immediately prior to receiving their degrees. Going to school or wanting more education before teaching was cited as the reason for not applying by 23 percent of the NQTs who did not apply (figure 13). The reason cited by an additional 23 percent of the NQTs who did not apply was that they wanted another occupation, there was more money or prestige in another job offer, or they did not like the low pay for teaching. An additional 19 percent said that they were never interested in teaching. Eight percent of the NQTs who did not apply to teach said they were not ready to apply, or they felt they lacked the necessary credentials. The remaining 28 percent cited other reasons.

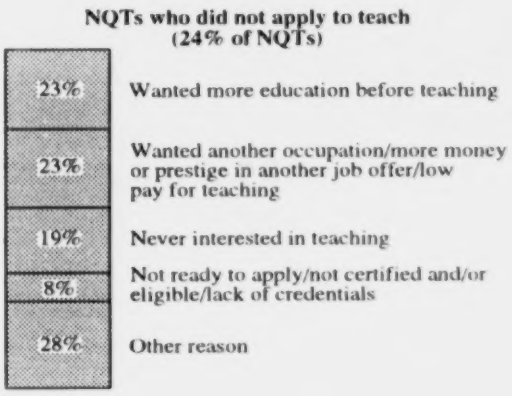
Table 7.--Percentage of newly qualified teachers (NQTs) who applied for a teaching job, and percentage of those who applied who were teaching 1 year after graduation: 1978, 1981, 1985, 1991

Status	Survey year			
	1978	1981	1985	1991
Percent of all NQTs:				
Applied to teach	77%	85%	86%	76%
Did not apply to teach	23	15	14	24
Percent of NQTs who applied:				
Teaching	77	75	78	71
Not teaching	23	25	22	29

NOTE: Some NQTs who did not apply for a teaching position after or immediately prior to receiving their degrees were teaching 1 year after graduation. Thus, while 54 percent of all 1991 survey NQTs applied and obtained teaching jobs 1 year after graduation, an additional 4 percent were teaching without having applied.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Recent College Graduates Survey, 1991.*

Figure 13. Percentage distribution of the main reason for not applying for a teaching job for newly qualified teachers (NQTs) who did not apply: 1991


NQTs who did not apply to teach
(24% of NQTs)
23%
Wanted more education before teaching
23%
Wanted another occupation/more money or prestige in another job offer/low pay for teaching
19%
Never interested in teaching
8%
Not ready to apply/not certified and/or eligible/lack of credentials
28%
Other reason

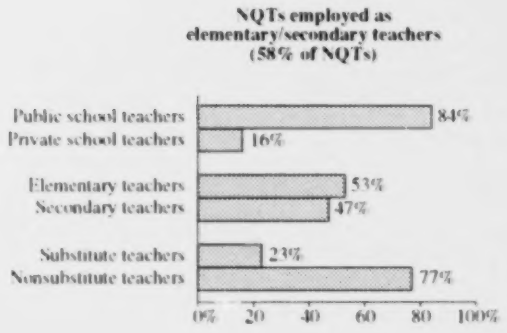
NOTE: Percentages may not add to 100 due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Recent College Graduates Survey, 1991.*

NQTs Employed as Elementary/Secondary Teachers. One year after graduation (in 1991), 58 percent of all NQTs and 64 percent of employed NQTs were working as elementary/secondary teachers and substitutes (figures 9 and 14). Among these teachers, 84 percent were employed in public schools and 16 percent in private schools (figure 14).[14] Just over half (53 percent) taught at the elementary level, with the remaining 47 percent teaching at the secondary level only. Substitute teachers accounted for 23 percent of NQTs teaching 1 year after graduation.

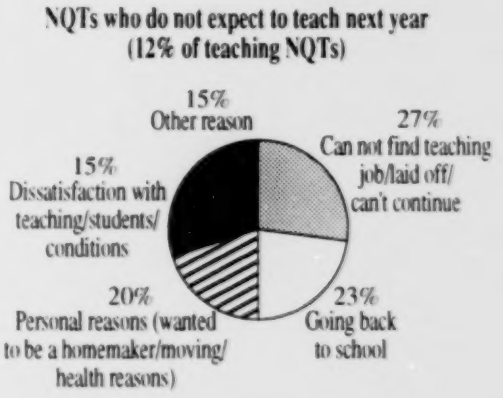
Among the NQTs teaching 1 year after graduation (in April 1991), 88 percent said that they expected to be teaching the following school year, in 1992 (Appendix table B-10). Of the 12 percent who did not expect to be teaching the following year, 27 percent said they could not find a teaching job, had been laid off, or could not continue; 23 percent were going back to school; and 20 percent had personal reasons for not continuing (wanted to be a homemaker, care for children, pregnancy, moving to a different location, or health reasons; figure 15). Fifteen percent cited one of the following: dissatisfaction with students, co-workers, working conditions, salary and benefits, opportunity for professional growth, or wanted either more challenging work or a less demanding job. The remaining 15 percent cited other reasons.

Figure 14. Type of teaching position for newly qualified teachers (NQTs) employed as elementary/ secondary teachers 1 year after graduation: 1991



SOURCE: U.S. Department of Education, National Center for Education Statistics, *Recent College Graduates Survey, 1991.*

Figure 15. Percentage distribution of the main reason for not teaching next school year for elementary/secondary teachers who are newly qualified teachers (NQTs) who do not expect to teach school next year: 1991


NQTs who do not expect to teach next year (12% of teaching NQTs)
15% Other reason
27% Can not find teaching job/laid off/ can't continue
15% Dissatisfaction with teaching/students/ conditions
20% Personal reasons (wanted to be a homemaker/moving/ health reasons)
23% Going back to school

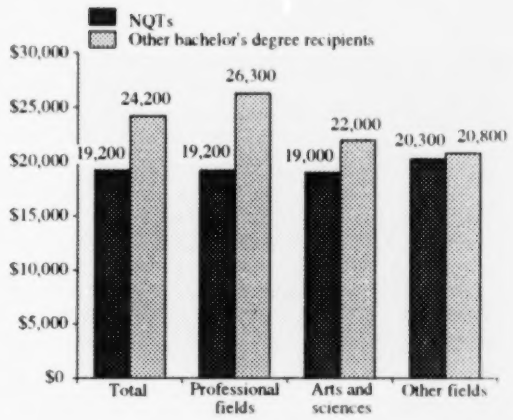
SOURCE: U.S. Department of Education, National Center for Education Statistics, *Recent College Graduates Survey, 1991.*

Average Annual Salary

In 1991, the average annual salary of NQTs working full time in any occupation was $19,200 (table 8 and figure 16). This was significantly less than the $24,200 average salary earned by other bachelor's degree recipients working full time. By type of major, the largest salary gap between NQTs and other bachelor's recipients was among those who majored in professional fields ($19,200 for NQTs compared to $26,300 for other bachelor's). Among graduates who majored in arts and sciences, the salary gap was smaller but NQTs still earned less than other bachelor's recipients ($19,000 compared to $22,000).

As shown in table 8, the salary differences between NQTs and other bachelor's degree recipients were similar to the differences between graduates working full time as substitute and nonsubstitute teachers (including both NQTs and non-NQTs), and graduates working full time in other occupations. Overall, other bachelor's recipients earned 26 percent more than NQTs, and nonteachers earned 25 percent more than teachers.

Figure 16. Average annual salaries of full-time employed newly qualified teachers (NQTs) and other bachelor's degree recipients, by type of major field of study: 1991



NOTE: The NQT salaries include NQTs working full time in any occupation, including substitute teaching and nonteaching positions.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Recent College Graduates Survey, 1991.*

Table 8.--Average annual salary of bachelor's degree recipients employed full time 1 year after graduation, by newly qualified teacher (NQT) status and teaching status, by selected major fields of study: 1991*

Major field of study	Total	NQT status		Teaching status	
		NQTs[1]	Other bachelor's recipients	All PK-12[2] teachers (NQTs and others)	All non-teachers (NQTs and others)
Total	$23,600	$19,200	$24,200	$19,400	$24,100
Type of major field					
Professional fields	25,300	19,200	26,300	19,300	26,300
Arts and sciences fields	21,700	19,000	22,000	19,400	21,900
Other fields	20,800	20,300	20,800	21,200	20,800
Selected specific majors[3]					
Business and management	24,700	23,000	24,800	-	24,800
Education	19,100	18,800	20,000	19,300	18,600
Math, computer sciences, physical sciences	27,200	19,600	27,900	19,200	27,800
Social sciences	22,200	20,700	22,300	19,700	22,300
Humanities	19,100	18,700	19,100	19,900	19,000
Psychology	19,200	17,000	19,300	-	19,200

- The sample size for full-time teachers was too small to produce a reliable estimate.

[1]This includes NQTs working full time in any occupation, including substitute teaching and nonteaching positions.

[2]This includes NQTs and other bachelor's recipients working full time in substitute and nonsubstitute teaching positions.

[3]The following majors fields were not listed because the NQT sample size was too small for reliable estimates to be produced: engineering, health professions, public affairs/social services, biological sciences, and history.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Recent College Graduates Survey, 1991.*

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By specific major, there were significant salary differences between NQTs and other bachelor's recipients who majored in the fields of math, computer sciences, and physical sciences (with $19,600 for NQTs and $27,900 for other bachelor's), and those who majored in psychology (with $17,000 for NQTs and $19,300 for other bachelor's).

Among newly qualified teachers employed full time, there was no difference in the average salary earned by NQTs in teaching positions ($19,100) and the salary earned by NQTs in nonteaching positions ($19,300; table 9). By major, the only salary difference between NQTs in teaching and nonteaching positions was among those who majored in education. Among those who majored in education, the average salary of NQTs in teaching positions was slightly higher than the salary of NQTs in nonteaching positions ($19,100 compared to $17,700).

Salary Comparisons to Previous Survey Cycles. Newly qualified teachers have earned lower salaries than other bachelor's recipients in each RCG survey cycle 1985, 1987, and 1991 (table 10). However, the difference between NQT salaries and other bachelor's salaries has decreased slightly since 1985. In constant 1990 dollars, the salary difference between other bachelor's recipients and NQTs was $5,400 in 1985 and $4,800 in 1991. In constant 1990 dollars, salaries for NQTs increased 6.4 percent from 1985 to 1987, while salaries for other bachelor's recipients increased 4.8 percent during the same period. From 1987 to 1991, the average salary for NQTs remained the same in constant dollars, while the average salary for other bachelor's recipients decreased 2.5 percent.

Table 9.--Average annual salary of newly qualified teachers (NQTs) employed full time in elementary/secondary teaching positions and nonteaching positions 1 year after graduation, by type of major field of study: 1991

Major field of study	NQTs in teaching positions[1]	NQTs in nonteaching positions
Total	$19,100	$19,300
Professional fields	19,000	19,600
Arts and sciences fields	19,200	18,800
Other fields	21,000	19,800
Education majors[2]	19,100	17,700

[1]This includes NQTs working full time in substitute and nonsubstitute teaching positions.

[2]Salary differences between NQTs in teaching positions and those in nonteaching positions in these fields were statistically significant.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Recent College Graduates Survey, 1991*.

Table 10.--Average annual salary for newly qualified teachers (NQTs) and other bachelor's degree recipients employed full time 1 year after graduation: RCG survey years 1985, 1987, 1991

Survey year	NQTs*			Other bachelor's recipients		
	Mean salary		Percent change (based on constant dollars)	Mean salary		Percent change (based on constant dollars)
	Current dollars	Constant 1990 dollars		Current dollars	Constant 1990 dollars	
1985	$14,300	$17,300	NA	$18,800	$22,700	NA
1987	16,000	18,400	6.4%	20,700	23,800	4.8%
1991	19,200	18,400	0.0%	24,200	23,200	-2.5%

NA - Not applicable.

*This includes NQTs working full time in any occupation, including substitute teaching and nonteaching positions.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Recent College Graduates Survey, 1991*.

Salaries of NQTs with Elementary/Secondary Teaching Contracts. The average salary of NQTs employed full time with an elementary/secondary (nonsubstitute) teaching contract was $19,900 (table 11). Overall, 41 percent of this group expected to earn income from summer employment outside their teaching contract in 1991. Among teachers earning summer income, the average expected summer income was $2,040. Including both teaching contract and summer income, the average salary for full-time teachers under contract was $20,700.

About one-fourth (24 percent) of the NQT teachers with full-time contracts were men, which is slightly lower than the proportion of men in the NQT population as a whole (29 percent). The average salary for male teachers with contracts was about 5 percent higher than the average salary for women ($20,700 compared to $19,600). The percentage of teachers who expected to earn summer income was higher among men than women (52 percent compared to 37 percent), and men expected to earn more in the summer ($2,470 compared to $1,850). When expected summer income is added to teaching contract salaries, the average income for men is 8 percent higher than for women ($22,000 compared to $20,300). This gap between men's and women's salaries is smaller than the gap for the population of 1989-90 bachelor's degree recipients working full time as a whole, with 13 percent higher salaries for men than for women (data not shown).

About 82 percent of the teachers with contracts were employed in public schools, and their salaries were 30 percent higher than the salaries of teachers in private schools ($20,800 compared to $15,900). A higher proportion of private school teachers than public school teachers expected to earn summer income (58 percent compared to 37 percent), but among those who expected summer income there was no difference in the amount expected to be earned. The combined teaching contract salary and expected summer income for public school teachers was 26 percent higher than for private school teachers ($21,500 compared to $17,100).

Table 11.--Average salaries and expected summer income for newly qualified teachers (NQTs) employed full time with elementary/secondary nonsubstitute teaching contracts 1 year after graduation: 1991

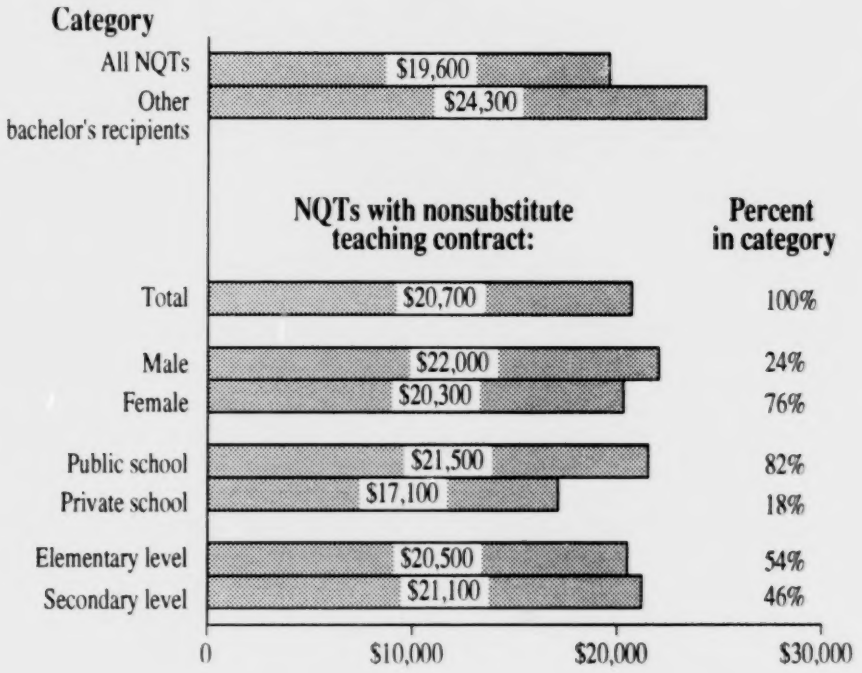
Characteristic	Percent in category	Average salary (teaching contract)	Summer employment		Average salary teaching contract and summer
			Percent expecting summer income	Average expected summer income	
Total	100.0%	$19,900	40.7%	$2,040	$20,700
Gender					
Male	24.0	20,700	52.3	2,470	22,000
Female	76.0	19,600	37.1	1,850	20,300
Control of school					
Public	82.4	20,800	37.1	2,040	21,500
Private	17.6	15,900	57.8	2,050	17,100
Grade level teaching					
Elementary	54.4	19,700	39.9	1,960	20,500
Secondary	45.6	20,200	41.7	2,130	21,100

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Recent College Graduates Survey, 1991.*

By grade level, teachers who taught only at the secondary level had slightly higher average salaries than elementary teachers ($20,200 compared to $19,700). The percentage of teachers who expected to earn summer income was about the same for elementary teachers (40 percent) and secondary teachers (42 percent).

Comparisons of NQTs with Elementary/ Secondary Teaching Contracts to Non-NQTs. When both teaching contracts and summer incomes are included, other bachelor's recipients earned 24 percent more than NQTs ($24,300 compared to $19,600; figure 17). Other bachelor's recipients earned 13 percent more than NQTs with public school teaching contracts when teaching contract salaries and expected summer income are included ($24,300 compared to $21,500).

Figure 17. Average salaries including expected summer income for bachelor's recipients employed full time 1 year after graduation: 1991



SOURCE: U.S. Department of Education, National Center for Education Statistics, *Recent College Graduates Survey, 1991.*

TEACHER ELIGIBILITY, CERTIFICATION, AND PREPAREDNESS

Eligibility and Certification

On the 1991 RCG survey, "eligible to teach" was defined as having completed all coursework, including student or practice teaching, required for a regular or standard certificate or license to teach at any or all grade levels prekindergarten through grade 12 (PK-12) in at least one state. "Certified to teach" was defined as having any type of regular or temporary certificate or license to teach school at any grade level PK-12 in at least one state.

Of all newly qualified teachers, 85 percent were eligible or certified to teach at the elementary or secondary level (table 12). For NQTs employed as teachers 1 year after graduation, the rate of eligibility or certification was 92 percent. Among NQTs employed full time as nonsubstitute teachers, 94 percent were eligible or certified.

Table 12.--Number and percent of newly qualified teachers (NQTs) eligible or certified in some field: 1991

Teaching status	Total	Eligible or certified in some field	
		Number	Percent
All NQTs	127,430	108,691	85.3%
NQTs employed as teachers	74,546	68,731	92.2
In public schools	62,358	59,234	95.0
In private schools	12,187	9,497	77.9
NQTs employed full time as nonsubstitute teachers	53,144	50,239	94.5
In public schools	42,905	42,050	98.0
In private schools	10,239	8,189	80.0

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Recent College Graduates Survey, 1991.*

Among all NQTs employed as teachers, the percentage eligible or certified was higher for those teaching in public schools than in private schools (95 percent of public school teachers and 80 percent of private school teachers were eligible or certified in some field). For NQTs employed full time as nonsubstitute teachers, 98 percent of the public school teachers and 80 percent of the private school teachers were eligible or certified in some field.

Elementary Teachers. Among NQTs employed as full-time, nonsubstitute teachers, those teaching elementary subjects had the highest eligibility and certification rates. The rates for elementary teachers were 96 percent eligible or certified in some field, 92 percent eligible or certified in elementary, and 91 percent certified in elementary (table 13).

Secondary Teachers in Selected Subject Fields. This group includes NQTs employed as full-time, nonsubstitute secondary level teachers teaching most frequently in one of the selected subject fields (English, mathematics, science, and social studies).[15] The overall rates for this group were 94 percent eligible or certified in some field, 88 percent eligible or certified in the subject field taught most frequently, and 81 percent certified in the subject field taught most frequently.

By subject, the percentage eligible or certified in some field ranged from 93 percent for English teachers to 96 percent for science teachers. The percentage eligible or certified within the subject field taught most frequently ranged from 84 percent for English and social studies teachers to 93 percent for math teachers. The rate of certification within the subject field taught most frequently ranged from 77 percent for English and social studies teachers to 85 percent for math teachers (table 13).

Special Education Teachers. Among full-time nonsubstitute NQTs teaching most frequently in the field of special education, 95 percent were eligible or certified in some field, 84 percent were eligible or certified in special education, and 77 percent were certified in special education (table 13).

Table 13.--Number and percentage of newly qualified teachers (NQTs) employed full time as elementary/secondary nonsubstitute teachers eligible or certified in some field, eligible or certified in field taught most frequently, and certified in field taught most frequently, by selected teaching fields: 1991

Teaching field	Total	Eligible or certified in some field[2]		Eligible or certified in primary teaching field		Certified in primary teaching field	
		Number	Percent	Number	Percent	Number	Percent
NQTs employed full time as non-substitute teachers[1]	53,144	50,239	94.5%	NA	NA	NA	NA
Any elementary	28,109	26,961	95.9	25,832	91.9%	25,482	90.7%
Total in selected secondary fields	14,004	13,106	93.6	12,246	87.4	11,336	80.9
English language arts/reading	4,911	4,549	92.6	4,117	83.8	3,798	77.3
Mathematics	4,185	3,995	95.4	3,878	92.6	3,537	84.5
Science (biological and physical)	2,793	2,677	95.9	2,472	88.5	2,343	83.9
Social science/social studies	3,863	3,680	95.3	3,242	83.9	2,972	76.9
Special education	3,863	3,680	95.3	3,242	83.9	2,972	76.9

NA - Not applicable.

[1]Different procedures were used to compile this table for the 1991 survey than were used in the 1985 and 1987 RCG survey analysis. In 1991, only full-time nonsubstitute teachers were included and only the subject field taught most frequently was included. In 1985 and 1987 all teachers and all subjects being taught were included.

[2]There were an estimated 18,094 NQTs employed full time as nonsubstitute teachers who were teaching primarily in a secondary education field. Of these, there were 14,004 (77 percent) who were teaching most frequently in English, mathematics, science, or social studies. All other secondary fields had sample sizes too small to produce reliable estimates for eligibility and certification.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Recent College Graduates Surveys, 1991*.

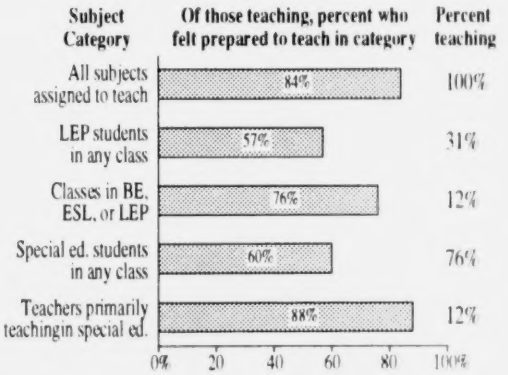
Teachers' Perceptions of Preparedness

Of all NQTs employed as elementary/secondary teachers (including substitutes), 84 percent felt adequately prepared to teach every subject field that they were teaching 1 year after graduation (figure 18).

Of the 31 percent of NQT teachers who taught any classes with Limited English Proficient (LEP) students since receiving their degrees, 57 percent felt prepared to teach LEP students. Of the 12 percent of NQT teachers who taught classes in Bilingual Education, English as a Second Language, or Limited English Proficient students, 76 percent felt prepared to teach these students.

Three-fourths (76 percent) of NQT teachers taught students who required special education services. Of these teachers, 60 percent felt adequately prepared to teach special education students. Among the 12 percent of NQT teachers who were teaching primarily in the field of special education, 88 percent felt adequately prepared to teach special education students.

Figure 18. Percentage of elementary/secondary teachers who are newly qualified teachers (NQTs) who felt prepared to teach, 1 year after graduation, by subject category: 1991



NOTE:LEP = Limited English proficient; BE = Bilingual education; ESL = English as a second language; Special ed. = Special education

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Recent College Graduates Survey, 1991*.

ENDNOTES

[1]Data on the occupational and educational outcomes for all bachelor's degree recipients are presented in the report *Occupational and Educational Outcomes of 1989-90 Bachelor's Degree Recipients 1 Year After Graduation: 1991.*

[2]The weighted graduate response rate is the weighted number of completed surveys divided by the sum of the weighted number of completed surveys and nonrespondents.

[3]Comparisons of 1991 RCG data with previous RCG studies are also made in this report. Differences cited as significant are significant at the 95 percent confidence level using a Bonferroni t-test.

[4]Among total 1989-90 graduates, about 51 percent are in the professional fields, 36 percent in the arts and sciences, and 12 percent in other fields. The "other" category includes the following majors: agriculture and natural resources, architecture and environmental design, area studies and ethnic studies, communications, consumer/personal/miscellaneous services, home economics, industrial arts, law, liberal/general studies, library and archival sciences, military sciences, multi/interdisciplinary studies, personal and social development, and trade and industrial.

[5]Copies of previous RCG data tapes are available from Peter Stowe, U.S. Department of Education, National Center for Education Statistics, 555 New Jersey Avenue, NW, Room 321, Washington, DC 20208-5652.

[7]The RCG:91 sample was drawn from lists of graduates who received bachelor's or master's degrees between July 1, 1989, and June 30, 1990. A sample member is classified as either a bachelor's or master's degree recipient based on the degree received from the sampled institution during the relevant time period. Therefore, if a graduate received a bachelor's degree from the sampled institution during the relevant time period and then went on to obtain postbaccalaureate teacher certification, he/she would still be classified as a bachelor's degree recipient for the RCG:91 study. Data from the American Association of Colleges for Teacher Education (AACTE) indicate that in recent years the largest increases in teacher education enrollments have been from those in what are called "postbaccalaureate programs" rather than baccalaureate or master's programs. These programs are often designed for graduates who did not obtain teacher certification as undergraduates, but are now interested in teaching as a career and return to obtain a "postbaccalaureate" degree. SOURCE: AACTE, RATE Institutional Survey, 1990.

[7]Estimates from U.S. Department of Education, National Center for Education Statistics, Statistics of Public Elementary and Secondary Day Schools; Common Core of Data survey; and Projections of Education Statistics to 2002, as included in the *Digest of Education Statistics*, 1991, table 59.

[8]United States Department of Education, National Center for Education Statistics, *Digest of Education Statistics*, 1991, table 59.

[9]United States Department of Education, National Center for Education Statistics, *Digest of Education Statistics*, 1991, table 44 (1986 data).

[10]United States Department of Education, National Center for Education Statistics, *Digest of Education Statistics*, 1991, table 62 (1988 data).

[11]The percentage of all graduates who are unemployed included in this report is not the same as the unemployment rate published by the U.S. Department of Labor. The unemployment rate is the percentage of graduates in the labor force who are unemployed.

[12]The definition of labor force status appears in appendix D, number 5.

[13]Nonsubstitute teachers are teachers who reported something other than substitute teaching to question 87 (see appendix D, number 7).

[14]Among all U.S. elementary and secondary full-time equivalent teachers, 87 percent were teaching in public schools. United States Department of Education, National Center for Education Statistics, *Digest of Education Statistics*, 1991, table 62.

[15]These percentages are not directly comparable to those reported for the 1985 and 1987 RCG studies. In previous RCG studies, rates of eligibility and certification were reported for all NQTs teaching one year after graduation, and included part-time and substitute teachers. In addition, in 1985 and 1987, all fields being taught (not just the field taught most frequently) were included. Appendix table A-2 presents data for all fields taught by all NQT teachers that are comparable to tables in the 1985 and 1987 survey reports.

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APPENDIX A

TABLES CONTAINING ADDITIONAL DATA REFERENCED IN TEXT

Table A-1.--Characteristics of bachelor newly qualified teachers (NQTs) by eligibility/certification status: 1991

Selected characteristics	NQTs not eligible or certified	NQTs eligible or certified	All NQTs
Total (number)	18,739	108,691	127,430
Total (percent)	100.0%	100.0%	100.0%
Age			
20-23	34.0	21.5	23.4
24-25	41.2	42.1	42.0
26 and older	24.8	36.4	34.7
Gender			
Male	43.4	26.6	29.0
Female	56.6	73.4	71.0
Race and ethnicity			
American Indian/Native Alaskan	0.5	0.7	0.7
Asian/Pacific Islander	1.3	1.3	1.3
Black, non-Hispanic	14.0	4.8	6.2
Hispanic	3.1	3.9	3.8
White, non-Hispanic	81.1	89.3	88.1
Marital status			
Single	74.0	57.1	59.8
Married	22.7	38.4	36.1
Separated, divorced, or widowed	3.6	4.5	4.4
Highest level of father's education			
High school diploma or less	37.3	49.0	47.3
Vocational or technical	0.5	2.0	1.8
College education	35.3	28.5	29.5
Postbaccalaureate education	27.0	20.5	20.5
Highest level of mother's education			
High school diploma or less	41.4	53.7	51.9
Vocational or technical	5.0	4.3	4.4
College education	41.6	33.4	34.6
Postbaccalaureate education	12.0	8.6	9.1
Educational expectations			
Bachelor's degree	12.3	6.4	7.2
Master's degree	59.4	75.2	72.9
Doctoral degree	18.5	16.3	16.6
First-professional degree	9.8	2.1	3.3
Grade point average			
3.75-4.00	10.7	14.6	14.0
3.25-3.74	31.2	36.6	35.8
2.75-3.24	37.2	38.8	38.6
2.25-2.74	17.5	9.0	10.2
1.75-2.24	2.2	0.9	1.1

NOTE: Of the total NQTs not certified or eligible (18,739), there were 5,814 with teaching as primary job, 1,298 with teaching as second job, and 11,826 were not teaching at the time of the study but had taught at some time since obtaining degree. Percentages in each category may not add to 100 due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Recent College Graduates Survey, 1991*.

Table A-2.–Eligibility and certification status of newly qualified teachers (NQTs) by teaching field: 1991

Teaching field*	Total	Eligible or certified in some field		Eligible or certified in teaching field*		Certified in teaching field*	
		Number	Percent	Number	Percent	Number	Percent
Newly qualified teachers (NQTs) employed as teachers	74,546	68,731	92.2%	*	*	*	*
Selected field of NQTs							
Any elementary fields, general or specialized	39,862	37,263	93.5	35,548	89.2%	34,910	87.6%
Art/fine arts/performing arts	7,194	6,629	92.1	3,281	45.6	2,749	38.2
Biological or life sciences	3,016	2,862	94.9	1,893	62.8	-	-
Computer sciences	1,875	1,834	97.9	-	-	-	-
English language arts	18,675	17,078	91.4	12,981	69.5	11,627	62.3
Health	7,335	7,215	98.4	5,239	71.4	4,509	61.5
Mathematics	22,582	21,090	93.4	14,336	63.5	12,745	56.4
Music	4,802	4,371	91.0	3,031	63.1	2,699	56.2
Any physical sciences, general or specialized							
General sciences (no specialized area)	8,814	8,430	95.6	4,599	52.2	3,900	44.2
Chemistry	571	-	-	-	-	-	-
Geology/earth science	1,976	1,932	97.8	-	-	-	-
Physics	575	-	-	-	-	-	-
Other physical sciences	2,043	1,999	97.9	-	-	-	-
Physical education	8,685	8,052	92.7	5,590	64.4	4,780	55.0
Pre-elementary education	2,069	1,890	91.3	1,572	76.0	-	-
Reading	14,487	14,142	97.6	10,818	74.7	8,881	61.3
Religion/philosophy	2,292	1,917	83.6	-	-	-	-
Social science/social studies	16,204	15,002	92.6	10,352	63.9	8,620	53.2
Any special education fields							
Mental retardation	3,317	2,953	89.0	2,259	68.1	2,089	63.0
Hearing impairments, deafness	1,292	-	-	-	-	-	-
Serious emotional disturbance	4,556	4,293	94.2	2,466	54.1	2,161	47.4
Speech impairments	2,148	1,891	88.0	-	-	-	-
Specific learning disabilities	5,767	5,504	95.4	3,071	53.2	2,584	44.8
General certificate (no specific condition)	4,102	3,807	92.8	1,670	40.7	1,403	34.2
Other special education	2,486	2,244	90.3	-	-	-	-
Other fields	11,941	10,396	87.1	-	-	-	-

- Sample size too small to report estimate (fewer than 30 cases in the sample).

*Teachers answered for any field in which they were teaching in April 1991. This does not refer to the subject field that was taught most frequently. (See text table 13 for eligibility and certification information for subject fields taught most frequently for full-time nonsubstitute NQT teachers.)

NOTE This table includes all bachelor's degree NQTs, including those employed part time and substitute teachers. It is comparable to table 10 in the 1987 NQT report.

SOURCE U.S. Department of Education, National Center for Education Statistics, *Recent College Graduates Survey, 1991*.

Table A-2.–Eligibility and certification status of newly qualified teachers (NQTs) by teaching field: 1991 (continued)

Teaching field*	Total standard error	Eligible or certified in some field		Eligible or certified in teaching field*		Certified in teaching field*	
		Number	Percent	Number	Percent	Number	Percent
		Standard error	Standard error	Standard error	Standard error	Standard error	Standard error
Newly qualified teachers (NQTs) employed as teachers	1,738	1,639	91%	*	*	*	*
Selected field of NQTs:							
Any elementary fields, general or specialized	1,074	1,028	.82	1,017	1.03%	1,018	1.07%
Art/fine arts/performing arts	568	524	2.36	362	3.49	316	3.19
Biological or life sciences	351	335	2.94	253	5.02	-	-
Computer sciences	262	261	1.92	-	-	-	-
English language arts	895	793	1.82	677	2.38	627	2.10
Health	579	587	.63	438	3.22	415	3.71
Mathematics	919	837	1.06	587	2.03	603	1.99
Music	378	366	3.64	319	5.13	321	4.85
Any physical sciences, general or specialized:							
General sciences (no specialized area)	718	665	1.09	383	3.04	358	3.09
Chemistry	190	-	-	-	-	-	-
Geology/earth science	252	248	2.12	-	-	-	-
Physics	135	-	-	-	-	-	-
Other physical sciences	373	371	2.08	-	-	-	-
Physical education	516	519	1.87	442	3.42	408	3.32
Pre-elementary education	286	256	3.37	242	5.38	-	-
Reading	699	674	1.01	582	1.83	521	2.48
Religion/philosophy	292	270	5.52	-	-	-	-
Social science/social studies	956	873	1.61	610	2.30	593	1.99
Any special education fields:							
Mental retardation	400	342	6.02	245	6.12	249	5.85
Hearing impairments, deafness	264	-	-	-	-	-	-
Serious emotional disturbance	410	372	4.10	228	4.30	207	3.59
Speech impairments	390	310	7.98	-	-	-	-
Specific learning disabilities	492	459	3.26	278	3.27	262	2.95
General certificate (no specific condition)	349	343	3.79	225	4.67	221	4.62
Other special education	349	334	4.04	-	-	-	-
Other fields	696	578	2.57	-	-	-	-

- Sample size too small to report estimate (fewer than 30 cases in the sample).

*Teachers answered for any field in which they were teaching in April 1991. This does not refer to the subject field that was taught most frequently. (See text table 13 for eligibility and certification information for subject fields taught most frequently for full-time non-substitute NQT teachers.)

NOTE: This table includes all bachelor's degree NQTs, including those employed part time and substitute teachers. It is comparable to table 10 in the 1987 NQT report.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Recent College Graduates Survey, 1991*.

APPENDIX B

TABLES WITH STANDARD ERRORS FOR DATA REPORTED IN TEXT

Table B-1.–Number of graduates by newly qualified teacher (NQT) status and degree level: 1991

Characteristic	Estimate	Standard error
Total number of bachelor's degree recipients	1,049,657	†
Number of newly qualified teachers		
Total	140,465	2,766
Master's degree recipients	13,035	1,512
Bachelor's degree recipients	127,430	2,632
Percent of bachelor's who are NQTs	12.1%	.25%

† Zero standard error for total or due to poststratification

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Recent College Graduates Survey, 1991.*

Table B-2–Characteristics of newly qualified teachers (NQTs) and other 1989-90 bachelor's degree recipients: 1991

Characteristic	Total		NQT status			
			NQTs		Other degree recipients	
	Percent	Standard error	Percent	Standard error	Percent	Standard error
All bachelor's graduates	100.0%	†	100.0%	†	100.0%	†
Gender						
Male	46.8	†	29.0	.70%	49.3	.11%
Female	53.2	†	71.0	.70	50.7	.11
Race/ethnicity						
American Indian/Native Alaskan	0.5	.06%	0.7	.16	0.5	.06
Asian/Pacific Islander	3.6	.15	1.3	.16	3.9	.16
Black, non-Hispanic	6.1	.39	6.2	.47	6.1	.40
Hispanic	3.8	.22	3.8	.51	3.8	.20
White, non-Hispanic	86.0	.52	88.1	.87	85.8	.50
Type of major field of study						
Professional fields	51.3	.76	65.9	.92	49.3	.84
Arts and sciences fields	36.3	.74	27.7	1.06	37.5	.81
Other fields'	12.4	.37	6.4	.51	13.2	.40
Major field of study						
Business and management	24.1	.68	3.7	.40	26.9	.78
Education	10.0	†	58.6	.87	3.3	.10
Engineering	7.8	.67	0.5	.14	8.8	.76
Health professions	6.4	.57	1.2	.18	7.1	.65
Public affairs/social service	3.1	.20	1.9	.28	3.2	.22
Biological sciences	4.3	.17	2.8	.42	4.5	.18
Math, computer sciences, physical sciences	5.6	.35	4.3	.32	5.8	.41
Social sciences	9.6	.35	3.9	.38	10.4	.38
History	2.2	.13	2.7	.27	2.1	.14
Humanities	9.4	.47	10.9	.74	9.2	.49
Psychology	5.2	.22	3.2	.39	5.5	.23
Other fields'	12.4	.37	6.4	.51	13.2	.40
Age as of December 31, 1991						
20-23	26.9	.81	23.4	1.02	27.4	.87
24-25	38.9	.58	42.0	.90	38.5	.62
26 and older	34.2	.97	34.7	1.21	34.1	1.04
Marital status						
Single	69.8	.81	59.6	.98	71.2	.87
Married	25.9	.66	36.1	.89	24.5	.71
Separated, divorced, or widowed	4.3	.24	4.4	.33	4.3	.27
Highest level of father's education						
High school diploma or less	42.2	.64	47.3	.90	41.5	.69
Vocational or technical	2.1	.12	1.8	.23	2.1	.12
College education	33.1	.34	29.5	.70	33.6	.39
Postbaccalaureate education	22.7	.52	21.4	.79	22.8	.55

Table B-2--Characteristics of newly qualified teachers (NQTs) and other 1989-90 bachelor's degree recipients: 1991 (continued)

Characteristic	Total		NQT status			
			NQTs		Other degree recipients	
	Percent	Standard error	Percent	Standard error	Percent	Standard error
Highest level of mother's education						
High school diploma or less	48.7%	.61%	51.9%	.97%	48.3%	.65%
Vocational or technical	5.0	.17	4.4	.42	5.1	.18
College education	36.0	.51	34.6	.79	36.2	.56
Postbaccalaureate education	10.2	.30	9.1	.58	10.4	.32
Educational expectations						
Bachelor's degree	17.2	.36	7.2	.41	18.6	.40
Master's degree	61.7	.45	72.9	.81	60.1	.49
Doctoral degree	13.3	.33	16.6	.70	12.9	.35
First-professional degree	7.8	.29	3.3	.29	8.4	.32
Grade point average[2]						
3.75-4.00	10.2	.34	14.0	.74	9.7	.36
3.25-3.74	31.0	.54	35.8	.85	30.4	.57
2.75-3.24	42.1	.46	38.6	.97	42.6	.47
2.25-2.74	14.0	.35	10.2	.53	14.6	.37
1.75-2.24	2.1	.10	1.1	.16	2.3	.12

† Zero standard error for total or due to poststratification.

[1]Other fields includes agriculture and natural resources, architecture and environmental design, area and ethnic studies, communications, consumer/personal/miscellaneous services, home economics, industrial arts, law, liberal/general studies, library and archival sciences, military sciences, multi/interdisciplinary studies, personal and social development, and trade and industrial.

[2]Estimates for grade point average will not sum to the total. There were an estimated 84 graduates with GPA less than 1.75, and 3,146 that did not take courses for which grades were given.

NOTE: Percentages may not add to 100 due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Recent College Graduates Survey, 1991.*

Table B-3--Newly qualified teachers (NQTs) and other bachelor's degree recipients, by gender and marital status: 1991

Characteristic	Total				NQT status							
					NQTs				Other bachelor's degree recipients			
	Male		Female		Male		Female		Male		Female	
	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error
All bachelor's graduates	100.0%	†	100.0%	†	100.0%	†	100.0%	†	100.0%	†	100.0%	†
Marital status												
Single	74.0	.80%	66.1	1.01%	69.3	1.56%	55.6	1.12%	74.4	.86%	68.1	1.11%
Married	24.0	.69	27.6	.83	29.7	1.47	38.7	1.02	23.5	.74	25.5	.91
Separated, divorced, or widowed	2.0	.19	6.3	.37	0.9	.26	5.7	.45	2.1	.21	6.4	.43

† Zero standard error for total or due to poststratification.

NOTE: Percentages may not add to 100 due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Recent College Graduates Survey, 1991.*

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Table B-4.–Total number of bachelor's degree recipients and number of newly qualified teachers (NQTs) who received their degree during the 1989-90 academic year, by graduate characteristics: 1991

Characteristic	Bachelor's degree recipients		Number of NQTs		Percent NQTs are of all bachelor's recipients	
	Number	Standard error	Number	Standard error	Percent	Standard error
All bachelor's graduates	1,049,657	†	127,430	2,632	12.1%	.25%
Gender						
Male	491,488	†	37,012	1,138	7.5	.23
Female	558,169	†	90,418	2,111	16.2	.38
Race/ethnicity						
American Indian/Native Alaskan	5,532	658	839	204	15.2	3.15
Asian/Pacific Islander	37,269	1,556	1,647	192	4.4	.47
Black, non-Hispanic	64,221	4,145	7,855	602	12.2	.55
Hispanic	39,573	2,273	4,863	629	12.3	1.18
White, non-Hispanic	903,063	5,467	112,226	2,877	12.4	.29
Type of major field of study						
Professional fields	538,960	8,014	83,951	1,256	15.6	.31
Arts and sciences fields	380,666	7,789	35,290	1,832	9.3	.47
Other fields*	130,030	3,842	8,190	696	6.3	.48
Major field of study						
Business and management	252,976	7,186	4,720	533	1.9	.22
Education	104,715	†	74,625	950	71.3	.91
Engineering	81,747	6,981	583	178	0.7	.24
Health professions	67,238	6,024	1,550	242	2.3	.43
Public affairs/social service	32,285	2,116	2,472	349	7.7	1.00
Biological sciences	44,684	1,830	3,558	563	8.0	1.15
Math, computer sciences, physical sciences	58,644	3,710	5,420	421	9.2	1.01
Social sciences	101,003	3,665	4,993	520	4.9	.49
History	22,997	1,323	3,379	371	14.7	1.61
Humanities	98,355	4,895	13,889	1,080	14.1	1.01
Psychology	54,982	2,329	4,050	506	7.4	.83
Other fields'	130,030	3,842	8,190	696	6.3	.48
Age as of December 31, 1991						
20-23	282,769	8,474	29,764	1,560	10.5	.55
24-25	408,315	6,109	53,479	1,689	13.1	.37
26 and older	358,573	10,219	44,187	1,542	12.3	.43
Marital status						
Single	732,519	8,468	75,920	2,093	10.4	.28
Married	272,014	6,879	45,963	1,358	16.9	.55
Separated, divorced, or widowed	45,124	2,515	5,547	446	12.3	1.20
Highest level of father's education						
High school diploma or less	442,662	6,750	60,237	1,673	13.6	.37
Vocational or technical	21,996	1,236	2,266	302	10.3	1.23
College education	347,229	3,596	37,640	1,222	10.8	.37
Postbaccalaureate education	237,770	5,450	27,287	1,118	11.5	.44

Table B-4.--Total number of bachelor's degree recipients and number of newly qualified teachers (NQTs) who received their degree during the 1989-90 academic year, by graduate characteristics: 1991 (continued)

Characteristic	Bachelor's degree recipients		Number of NQTs		Percent NQTs are of all bachelor's recipients	
	Number	Standard error	Number	Standard error	Percent	Standard error
Highest level of mother's education						
High school diploma or less	511,658	6,385	66,151	1,579	13.0%	.30%
Vocational or technical	52,195	1,740	5,583	561	10.7	1.00
College education	378,259	5,395	44,142	1,528	11.7	.39
Postbaccalaureate education	107,544	3,176	11,553	764	10.7	.69
Educational expectations						
Bachelor's degree	180,529	3,752	9,208	529	5.1	.30
Master's degree	647,334	4,686	92,900	2,376	14.4	.35
Doctoral degree	139,832	3,433	21,161	915	15.1	.65
First-professional degree	81,962	3,019	4,162	388	5.1	.47
Grade point average[2]						
3.75-4.00	107,302	3,569	17,844	979	16.6	.88
3.25-3.74	325,733	5,623	45,579	1,418	14.0	.40
2.75-3.24	442,400	4,826	49,202	1,759	11.1	.38
2.25-2.74	147,457	3,643	13,010	701	8.8	.43
1.75-2.24	22,409	1,079	1,440	201	6.4	.93

† Zero standard error for total or due to poststratification.

[1]Other fields includes agriculture and natural resources, architecture and environmental design, area and ethnic studies, communications, consumer/personal/miscellaneous services, home economics, industrial arts, law, liberal/general studies, library and archival sciences, military sciences, multi/interdisciplinary studies, personal and social development, and trade and industrial.

[2]Estimates for grade point average will not sum to the total. There are an estimated 84 graduates with GPA less than 1.75, and 3,146 that did not take courses for which grades were given.

NOTE: Details may not add to totals due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Recent College Graduates Survey, 1991*.

Table B-5.–Percentage distribution of newly qualified teachers (NQTs) by education major status and by major field of study for noneducation majors: 1991

Characteristic	Percent	Standard error
Total	100.0%	†
Total NQTs		
Education majors	58.6	.87%
Noneducation majors	41.4	.87
NQTs teaching the week of April 22, 1991		
Education majors	72.3	1.02
Noneducation majors	27.7	1.02
NQTs certified or eligible and teaching the week of April 22, 1991		
Education majors	77.0	1.07
Noneducation majors	23.0	1.07
NQTs who were not education majors by major field		
Business and management	8.9	.95
Engineering	1.1	.34
Health professions	2.9	.42
Public affairs/social services	4.7	.69
Biological sciences	6.7	.98
Math, computer sciences, physical sciences	10.3	.78
Social sciences	9.5	.88
History	6.4	.63
Humanities	26.3	1.61
Psychology	7.7	.91
Other fields*	15.5	1.28

*Other fields includes agriculture and natural resources, architecture and environmental design, area and ethnic studies, communications, consumer/personal/miscellaneous services, home economics, industrial arts, law, liberal/general studies, library and archival sciences, military sciences, multi/interdisciplinary studies, personal and social development, and trade and industrial.

† Zero standard error for total or due to poststratification.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Recent College Graduates Survey, 1991*.

Table B-6.–Percentage distribution by labor force status, enrollment status, job characteristics, and reason not working for newly qualified teachers and other bachelor's degree recipients 1 year after graduation: 1991

Characteristic	NQTs		Other bachelor's degree recipients	
	Percent	Standard error	Percent	Standard error
Labor force status				
Employed full time	73.4%	.79%	73.8%	.37%
Employed part time, wanted part time	6.0	.38	6.4	.23
Employed part time, wanted full time	11.2	.55	3.2	.15
Unemployed	3.1	.35	4.1	.17
Not in the labor force	6.4	.44	12.4	.28
Enrollment in school after graduation				
Ever enrolled	39.0	.80	34.0	.53
Enrolled and working	33.0	.78	23.0	.44
Enrolled and not working	6.0	.49	11.0	.29
Job characteristics (percent of graduates employed)[1]				
Actively looking for a different principal job (full and part time)	30.8	.88	22.9	.40
Actively looking for a different principal job (full time only)	25.8	.87	20.9	.43
4-year college required for job	74.4	.89	53.1	.66
Job is related to major	82.5	.87	74.8	.54
Job has career potential	80.1	.70	79.3	.42
Main reason not working (percent of graduates not employed)[2]				
Going to school	43.8	2.69	56.5	1.11
Could not find the kind of job wanted/laid off	23.3	2.76	21.5	.96
Family responsibilities	14.0	1.52	6.3	.48
Other reason	18.9	2.60	15.6	.69

[1]Job characteristics includes only employed graduates.

[2]Main reason not working includes only graduates not employed.

NOTE: Percentages may not add to 100 due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Recent College Graduates Survey, 1991.*

Table B-7.–Percentage of newly qualified teachers (NQTs) and other bachelor's degree recipients who were not in the labor force 1 year after graduation, by type of major field: 1991

Major field	Total		NQTs		Other bachelor's degree recipients	
	Percent	Standard error	Percent	Standard error	Percent	Standard error
Total	11.7%	.24%	6.4%	.44%	12.4%	.28%
Professional fields	6.7	.24	4.8	.48	7.1	.28
Arts and sciences fields	19.2	.50	9.4	1.07	20.2	.54
Other fields*	10.3	.51	-	-	10.3	.54

*Other fields includes agriculture and natural resources, architecture and environmental design, area and ethnic studies, communications, consumer/personal/miscellaneous services, home economics, industrial arts, law, liberal/general studies, library and archival sciences, military sciences, multidisciplinary studies, personal and social development, and trade and industrial.

- Sample size too small to produce a reliable estimate.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Recent College Graduates Survey, 1991.*

Table B-8.–Percentage distribution by type of occupation of newly qualified teachers employed 1 year after graduation: 1991

Occupation	Total		Full time		Part time	
	Percent	Standard error	Percent	Standard error	Percent	Standard error
PK-12 teachers (nonsubstitute)	49.5%	1.22%	93.1%	.68%	6.9%	.68%
PK-12 substitute teachers	15.2	.80	49.2	2.29	50.8	2.29
Administrative support	8.3	.44	81.4	2.18	18.6	2.18
Other educators	5.2	.39	67.1	3.50	32.9	3.50
Service personnel	4.8	.39	64.0	3.61	36.0	3.61
Business/managers	3.5	.39	94.9	2.64	5.1	2.64
Sales personnel	3.1	.35	74.7	4.41	25.3	4.41
Other occupations	10.4	.70	81.7	2.64	18.3	2.64

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Recent College Graduates Survey, 1991.*

Table B-9.–Percentage distribution of application and teaching status for newly qualified teachers: 1991

Characteristic	Percent	Standard error
Total	100.0%	†
Applied to teach status		
Applied	76.3	.71%
Did not apply	23.7	.71
Applied/teaching April 1991 status		
Applied, teaching	54.1	.90
Applied, not teaching	22.2	.87
Did not apply, teaching	4.4	.35
Did not apply, not teaching	19.3	.62
Reason did not apply (percent of those who did not apply both teaching and not teaching)		
Never interested in teaching	18.6	1.59
Wanted another occupation/more money or prestige in another job offer/low pay	22.5	1.54
Wanted more education before teaching	22.6	1.41
Not ready to apply/not certified/not eligible/lack of credentials	8.5	1.32
Other	27.8	1.50
Teaching April 1991 status (percent of those who applied)		
Was teaching	70.9	1.07
Was not teaching	29.1	1.07
Teaching status since degree receipt (percent of those who applied)		
Teaching in nonsubstitute position in April 1991	55.9	1.38
Substitute teacher in April 1991	15.0	.91
Second job as teacher April 1991	2.8	.31
Taught after obtaining degree but not in April 1991	14.6	.75
Did not teach after obtaining degree	11.7	.62

† Zero standard error for total or due to poststratification.

NOTE: Percentages may not add to 100 due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Recent College Graduates Survey, 1991.*

Table B-10.–Percentage distribution of reason for becoming a teacher, school control, teaching level, substitute status, teaching next year status, and reason not teaching next year for newly qualified teachers employed as elementary/secondary teachers 1 year after graduation: 1991

Characteristic	Percent	Standard error
Total	100.0%	†
Reason for becoming a teacher		
Always wanted to become a teacher	17.9	.66%
Likes to work with children	37.2	1.02
Likes the job security offered by teaching	2.6	.33
Gets satisfaction from teaching	38.1	1.01
Other	4.2	.49
School control (Public/Private)		
Public school teachers	83.7	.87
Private school teachers	16.3	.87
Religiously affiliated school teachers	10.7	.68
Not religiously affiliated school teachers	5.7	.46
Teaching level		
Elementary	53.5	1.42
Secondary	46.5	1.42
Substitute status		
Substitute teachers	23.5	1.29
Nonsubstitute teachers	76.5	1.29
Teaching next school year status		
Expect to teach next year	87.6	.96
Does not expect to teach next year	12.4	.96
Reason not teaching next school year (percent of those not expecting to teach next year)		
Can not find teaching job/laid off/can't continue	27.3	3.55
Going back to school	23.3	2.93
Personal reasons (wanted to be homemaker, care for children, moving, health reasons)	19.7	2.88
Dissatisfaction with teaching	14.8	2.37
Other	14.9	3.12

† Zero standard error for total or due to poststratification.

NOTE: Percentages may not add to 100 due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Recent College Graduates Survey, 1991*.

Table B-11.--Average annual salary of newly qualified teachers (NQTs) and all other bachelor's degree recipients employed full time, by graduate characteristics: 1991

Characteristic	Total		NQT status			
			NQTs		Other bachelor's degree recipients	
	Average salary	Standard error	Average salary	Standard error	Average salary	Standard error
All bachelor's graduates	$23,632	$180	$19,190	$152	$24,242	$199
Gender						
Male	25,432	220	20,817	362	25,805	236
Female	21,986	216	18,507	145	22,662	244
Type of major field of study						
Professional fields	25,289	265	19,168	156	26,347	300
Arts and sciences fields	21,725	218	18,983	353	22,021	229
Other fields[1]	20,773	270	20,327	991	20,800	269
Major field of study						
Business and management	24,727	324	23,043	1,893	24,752	330
Education	19,110	137	18,794	110	19,958	453
Engineering	30,933	392	-	-	30,960	393
Health professions	31,455	859	-	-	31,652	863
Public affairs/social service	20,801	466	-	-	20,628	491
Biological sciences	21,051	414	-	-	21,302	430
Math, computer sciences, physical sciences	27,156	399	19,550	461	27,929	391
Social sciences	22,213	327	20,707	966	22,293	335
History	21,315	606	-	-	21,864	728
Humanities	19,059	340	18,744	666	19,113	373
Psychology	19,154	314	17,028	807	19,339	311
Other fields[1]	20,773	270	20,327	991	20,800	269
Grade point average[2]						
3.75-4.00	26,067	543	20,489	341	27,295	641
3.25-3.74	24,309	220	19,211	251	25,189	257
2.75-3.24	23,394	187	18,946	266	23,940	203
2.25-2.74	21,943	264	18,527	272	22,227	285
1.75-2.24	21,739	529	17,808	1,061	22,007	541

[1]Other fields includes agriculture and natural resources, architecture and environmental design, area and ethnic studies, communications, consumer/personal/miscellaneous services, home economics, industrial arts, law, liberal/general studies, library and archival sciences, military sciences, multi/interdisciplinary studies, personal and social development, and trade and industrial.

[2]Estimates for grade point average will not sum to the total. There are an estimated 84 graduates with GPA less than 1.75, and 3,146 that did not take courses for which grades were given.

- Sample size too small to produce reliable estimates.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Recent College Graduates Survey, 1991.*

Table B-12.–Average annual salary of bachelor's degree recipients employed full time 1 year after graduation in teaching and nonteaching positions, by major field of study: 1991

Major field of study	Teaching positions		Nonteaching positions	
	Average salary	Standard error	Average salary	Standard error
Total	$19,379	$121	$24,137	$194
Professional fields	19,262	119	26,275	294
Business and management	-	-	24,759	323
Education	19,301	117	18,559	407
Engineering	-	-	30,960	392
Health professions	-	-	31,596	864
Public affairs/social services	-	-	20,855	482
Arts and sciences fields	19,419	287	21,899	230
Biological sciences	-	-	21,165	434
Math, computer sciences, physical sciences	19,221	381	27,784	395
Social sciences	19,709	775	22,300	334
History	-	-	21,611	693
Humanities	19,854	459	18,963	379
Psychology	-	-	19,216	325
Other fields*	21,179	773	20,757	273

*Other fields includes agriculture and natural resources, architecture and environmental design, area and ethnic studies, communications, consumer/personal/miscellaneous services, home economics, industrial arts, law, liberal/general studies, library and archival sciences, military sciences, multi/interdisciplinary studies, personal and social development, and trade and industrial.

- Sample size too small to produce reliable estimates.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Recent College Graduates Survey, 1991*.

Table B-13.–Average annual salary of newly qualified teachers (NQTs) employed full time 1 year after graduation in elementary/secondary teaching positions and nonteaching positions, by type of major field of study: 1991

Major field of study	NQTs in teaching positions		NQTs in nonteaching positions	
	Average salary	Standard error	Average salary	Standard error
Total	$19,120	$116	$19,326	$392
Professional fields	19,012	118	19,595	437
Arts and sciences fields	19,180	283	18,777	673
Other fields*	21,002	1,017	19,825	1,394
Education majors	19,087	121	17,668	283

*Other fields includes agriculture and natural resources, architecture and environmental design, area and ethnic studies, communications, consumer/personal/miscellaneous services, home economics, industrial arts, law, liberal/general studies, library and archival sciences, military sciences, multi/interdisciplinary studies, personal and social development, and trade and industrial.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Recent College Graduates Survey, 1991*.

Table B-14.--Average salaries and summer employment for newly qualified teachers employed full-time with elementary/secondary nonsubstitute teaching contracts 1 year after graduation: 1991

Characteristic	Percent in category	Average salary (teaching contract)	Summer employment		Average salary teaching contract and summer
			Percent expecting summer income	Average expected summer income	
Total	100.0%	$19,905	40.7%	$2,040	$20,735
Gender					
Male	24.0	20,713	52.3	2,473	22,006
Female	76.0	19,649	37.1	1,874	20,334
Control of school					
Public	82.4	20,753	37.1	2,038	21,509
Private	17.6	15,928	57.8	2,045	17,109
Grade level teaching					
Elementary	54.4	19,682	39.9	1,965	20,467
Secondary	45.6	20,170	41.7	2,125	21,056
Characteristic	Standard error	Standard error	Standard error	Standard error	Standard error
Total	†	$126	1.19%	$54	$131
Gender					
Male	1.14	181	2.26	102	203
Female	1.14	153	1.53	68	159
Control of school					
Public	1.17	113	1.22	67	125
Private	1.17	277	3.26	93	270
Grade level teaching					
Elementary	1.58	158	1.95	105	167
Secondary	1.58	149	1.60	56	145

† Zero standard error for total or due to poststratification.

NOTE: The average expected summer income is based on only those who expect to earn summer income. The average salary for teaching contract and summer combined is based on all full time NQTs with teaching contracts. Therefore, the average salary for teaching contract and summer combined does not equal the average teaching contract salary plus the average summer income presented in this table.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Recent College Graduates Survey, 1991*.

Table B-15.—Average salaries including summer employment for graduates employed full time 1 year after graduation: 1991

Characteristic	Average salary including summer employment	Standard error
Newly qualified teachers	$19,644	$158
Other bachelor's recipients	24,259	198

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Recent College Graduates Survey, 1991.*

Table B-16.–Number and percentage of newly qualified teachers (NQTs) employed full time as elementary/secondary nonsubstitute teachers eligible or certified in some field, eligible or certified in field taught most frequently, and certified in field taught most frequently, by selected teaching fields: 1991

Teaching field	Total	Eligible or certified in some field		Eligible or certified in primary teaching field		Certified in primary teaching field	
		Number	Percent	Number	Percent	Number	Percent
All newly qualified teachers	127,430	108,691	85.3%	NA	NA	NA	NA
NQTs employed as teachers	74,546	68,731	92.2	NA	NA	NA	NA
In public schools	62,358	59,234	95.0	NA	NA	NA	NA
In private schools	12,187	9,497	77.9	NA	NA	NA	NA
NQTs employed full time as non-substitute teachers	53,144	50,239	94.5	NA	NA	NA	NA
Control:							
In public schools	42,905	42,050	98.0	NA	NA	NA	NA
In private schools	10,239	8,189	80.0	NA	NA	NA	NA
Level:							
Any elementary	28,109	26,961	95.9	25,832	91.9%	25,482	90.7%
Total in selected secondary fields	14,004	13,106	93.6	12,267	87.6	11,336	80.9
English language arts/reading	4,911	4,549	92.6	4,117	83.8	3,798	77.3
Mathematics	4,185	3,995	95.4	3,878	92.6	3,537	84.5
Science (biological and physical)	2,793	2,677	95.9	2,472	88.5	2,343	83.9
Social science/social studies	2,115	1,885	89.1	1,799	85.1	1,658	78.4
Special education	3,863	3,680	95.3	3,242	83.9	2,972	76.9
Teaching field	**Standard error**	**Standard error**	**Standard error**	**Standard error**	**Standard error**	**Standard error**	**Standard error**
Newly qualified teachers	2,632	2,310	.70%	NA	NA	NA	NA
NQTs employed as teachers	1,728	1,639	.91	NA	NA	NA	NA
In public schools	1,508	1,387	0.70	NA	NA	NA	NA
In private schools	743	639	3.67	NA	NA	NA	NA
NQTs employed full time as non-substitute teachers	1,440	1,432	1.03	NA	NA	NA	NA
Control:							
In public schools	1,319	1,320	0.63	NA	NA	NA	NA
In private schools	690	562	4.14	NA	NA	NA	NA
Level:							
Any elementary	867	840	.95	805	1.23%	799	1.29%
Total in selected secondary fields	746	757	2.25	741	2.54	682	3.07
English language arts/reading	422	405	3.50	399	3.88	328	4.27
Mathematics	363	363	.95	344	1.70	329	3.76
Science (biological and physical)	223	222	2.94	222	3.98	253	5.50
Social science/social studies	307	312	7.20	309	7.43	267	8.22
Special education	371	317	2.75	318	3.54	298	3.89

NA - Not applicable.

NOTE: Different procedures were used to compile this table for the 1991 survey than were used in the 1985 and 1987 RCG survey analysis. In 1991, only full-time nonsubstitute teachers were included and only the subject field taught most frequently was included. In 1985 and 1987 all teachers and all subjects being taught were included. Details may not add to totals due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Recent College Graduates Survey, 1991.*

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Table B-17.--Percentage of NQT elementary and secondary teachers who felt prepared to teach by teaching category 1 year after graduation: 1991

Teaching category	Percent teaching		Of those teaching, percent who felt prepared to teach	
	Percent[2]	Standard error	Percent	Standard error
All subjects assigned to teach	100.0%	NA	84.4%	.77%
Limited English Proficient (LEP) students . . .	31.4	1.09%	57.1	2.08
Special education students	76.2	.79	60.1	1.23
Classes in BE, ESL, or LEP[1]	11.9	.75	76.4	2.67
Teaching primarily in the field of special ed .	11.8	.90	88.2	1.83

NA - Not applicable.

[1]BE = Bilingual education; ESL = English as a second language; LEP = Limited English proficient.

[2]Percentages in this column are not additive. Multiple categories were allowed; all that were applicable were marked.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Recent College Graduates Survey, 1991*.

APPENDIX C

TECHNICAL NOTES

APPENDIX C. TECHNICAL NOTES

The Recent College Graduates Study is designed to describe the educational and occupational experiences of U.S. bachelor's and master's degree recipients approximately 1 year after graduation. For the 1991 survey (RCG:91), a sample of graduates who received a bachelor's or master's degree between July 1989 and June 1990 were interviewed about their employment and educational status approximately 1 year after graduation. For the employment question the reference was the week of April 22, 1991. The sample of approximately 18,000 graduates consisted of 16,000 bachelor's degree recipients and 2,000 master's degree recipients. Surveys were collected by telephone, using Computer Assisted Telephone Interviewing (CATI). The type of data collected included information about the degree received (major, minor, and grade point average), additional education after receipt of the degree, employment experience, relationship of degree to current job, teacher certification and employment, background, and financial support to attend school.

Sample Design

The RCG:91 survey used a two-stage sample design, with a sample of 400 institutions in the first stage, and a sample of 18,000 graduates from the institutions in the second stage.

Institution Sampling. The frame consisted of institutions from the 1988-89 Integrated Postsecondary Education Data System (IPEDS) Completions tape that satisfied the following criteria: (1) the institution had a Federal Interagency Commission on Education (FICE) code (i.e., was a "higher education institution," accredited at the college level by an agency recognized by the U.S. Secretary of Education); (2) the institution was in one of the 50 states or the District of Columbia; (3) the institution was a 4-year (or above) institution; and (4) the institution reported a positive number of bachelor's or master's degrees.

Table C-1 shows the total number of eligible institutions in the universe and the institution sample sizes, broken down by the six institutional strata. These universe totals came from the 1988-

Table C-1. Total number of eligible institutions in the universe* and the institution sample sizes, broken down by the six institutional strata

Institutional strata	Universe total*	Sample size
Total	1,978	400
Public institutions (bilingual strata)	45	27
Public institutions (education strata)	252	174
Other public institutions	259	58
Private institutions (bilingual strata)	38	15
Private institutions (education strata)	49	11
Other private institutions	1,335	115

*From the 1988-1989 IPEDS completions file. For IPEDS documentation contact Frank Morgan, U.S. Department of Education, National Center for Education Statistics, 555 New Jersey Avenue, NW, Washington, DC, 20208-5652.

89 IPEDS completions file. For the purposes of sample selection, an institution was classified in the education strata if it either (1) gave 100 or more bachelor's degrees in education (Classification of Instructional Program--CIP code 13); or (2) gave at least half of its bachelor's and master's degrees in education. An institution was classified as bilingual if it gave at least one bachelor's or master's degree in bilingual education or English as a second language (CIP codes: 13.0201, 13.0299, and 13.1401).[1]

Sample selection within stratum was done systematically with probability proportionate to size. The universe was sorted by stratum, geographic region within stratum, by Federal Information Processing Standards (FIPS) state code within stratum and geographic region, and finally by IPEDS Unit ID Code. This sort order ensured geographic dispersion in the sample. The measure of size was designed by NCES to give extra weight to institutions based on the proportion of degrees awarded to blacks. The measure of size (mos) can be written as:

> MOS = total bachelor's and master's degrees (if < 100 it was set to 100) + (750 times the proportion of degrees to black graduates)

The factor of 750 was determined empirically to give substantial added emphasis to black graduates, while reducing the overall efficiency of the sample by less than 10 percent.

Within-Institution Sampling. The second stage of the sampling process selected graduates within the institutions. Each of the participating sampled institutions sent a list of all their 1989-90 bachelor's and master's degree recipients, either on paper or in a computer file. Institutions were requested to include degree (bachelor's/master's), major field of study, and race/ethnicity on their lists. These lists were provided in a variety of formats, such as magnetic tapes, diskettes, printouts, and commencement programs. All lists were edited to verify that they included all eligible graduates and to delete any ineligibles. As part of this editing process, counts of the numbers of bachelor's and master's degree recipients for each school were compared to those reported to IPEDS. Discrepancies of 20 percent or more were clarified by telephone followup to the school.

After being edited, files obtained in computer-readable form (tapes and diskettes) were copied into a standard format for sampling by computer. For lists received on paper, sampling was more complicated. Since different sampling rates were used according to major and race/ethnicity, drawing the samples entirely by hand would have meant an involved process of identifying the correct stratum for each graduate on the list, and applying different sampling rates for each stratum. To avoid this difficulty, paper lists were sampled in steps. First, a sample was drawn by hand from the entire list at the highest rate to be applied within that school. The highest rate for a school was calculated as three times the school base rate. Second, information for this initial sample (including major and race/ethnicity) was keyed and verified. Third, this keyed file was sub-sampled by computer to obtain the appropriate sampling rate for each graduate stratum.

For sampling, each graduate was classified into one of seven strata. All master's degree recipients were in one stratum, and bachelor's degree recipients were divided into the following strata: (1) black graduates; (2) Hispanic graduates, (3) education majors who were not black or Hispanic; (4) math majors who were not black or Hispanic; (5) physical science majors who were not black or Hispanic; and (6) all other graduates.

A systematic sample of graduates was selected by stratum. The base rates for bachelor's and master's degree graduates were derived by taking the desired sample size and dividing by the number of graduates from all institutions in the universe. Over-sampling was done to ensure adequate sample sizes for groups of interest. Bachelor's degree black and Hispanic graduates were over-sampled at three times the base rate. Bachelor's degree education majors were over-

[1]When the institution sample was drawn, NCES expected that bilingual education majors might be oversampled as a special population of interest. However, this oversampling was later dropped from the study.

sampled at two and a half times the base rate. Finally, bachelor's degree math and physical sciences majors were over-sampled at two times the base rate. Table C-2 shows the total number of graduates from the 1989-90 IPEDS completions file and the sample sizes achieved, broken down by the seven graduate strata.

Data Collection and Response Rates

The first data collection activity was to collect lists of bachelor's and master's degree recipients from the sampled colleges and universities. Of the 400 sampled schools, 378 sent usable lists, 20 were nonrespondents, and 2 were ineligible for the study (one school had closed and one had merged with another sampled school). Both the unweighted and weighted response rates were 95.0 percent for schools.

Of the participating institutions, 72 percent were able to supply race/ethnicity data for at least some of their graduates. Of the sampled graduates, 64 percent had race/ethnicity identified by the institution prior to sampling.

Once the graduate sample was selected from the lists, flyers were mailed to the sampled graduates requesting their participation in the study and asking for updated address and telephone number information. While earlier cycles of RCG conducted data collection using mail with telephone followup, the 1991 survey conducted data collection primarily by telephone, using the computer assisted telephone interviewing (CATI) system. In RCG:91, collection of questionnaires by mail was used only for graduates with unlisted numbers, those without telephones, and telephone refusals. A total of 124 surveys were completed by mail in RCG:91. Using the telephone as the primary data collection mode allowed earlier identification of graduates needing tracing, and reduced the need for data retrieval.

As shown in Table C-3, the survey sample contained 18,135 graduates. Of these, 14,405 completed questionnaires, 2,930 were nonrespondents, and 800 were ineligible. This resulted in an unweighted graduate response rate of 83.1 percent. The weighted graduate response rate (calculated as the weighted number of completes divided by the sum of the weighted number of completes and nonrespondents) is 83.2 percent. For bachelor's degree recipients the

Table C-2. Total number of graduates from the 1989-90 IPEDS completions file, and the graduate sample sizes achieved, broken down by the seven graduate strata

Graduate strata	Universe total*	Sample size
Total	1,373,501	18,135
Master's graduates	323,844	1,963
Bachelor's, nonblack non-Hispanic:		
Education majors	97,621	2,919
Math majors	13,536	343
Physical sciences majors	15,030	357
All other majors	832,591	10,101
Bachelor's, black graduates	59,193	1,743
Bachelor's, Hispanic graduates	31,686	709

*From the 1989-90 IPEDS completions file.

Table C-3. Number of sampled graduates and weighted response rates by graduate and institution characteristics

Graduate and institution characteristic	Number of sampled graduates by status				Weighted graduate response rate[2]
	Total	Complete	Non-response	Ineligible[1]	
Total	18,135	14,405	2,930	800	83.2%
Degree[3]					
Bachelor's	16,172	12,898	2,608	666	83.6
Master's	1,963	1,507	322	134	82.0
Gender[4]					
Male	7,568	6,236	1,332	-	82.8
Female	9,767	8,169	1,598	-	83.7
Not coded	800	-	-	800	-
Major for bachelor's degree recipients[5]					
Education	3,109	2,630	381	98	87.3
Mathematics	379	325	43	11	87.8
Physical sciences	388	316	55	17	85.6
Other	12,296	9,627	2,129	540	83.1
Race/ethnicity for bachelor's degree recipients[5]					
American Indian/Native Alaskan	38	31	6	1	83.9
Asian/Pacific Islander	386	270	85	31	75.8
Black, non-Hispanic	1,743	1,187	484	72	70.9
Hispanic	709	544	128	37	80.6
White, non-Hispanic	8,803	7,425	1,076	302	86.7
Not reported	4,493	3,441	829	223	80.2
Institution control					
Public	12,340	9,794	2,027	519	82.8
Private	5,795	4,611	903	281	84.1
Institution size					
Enrollment less than 1,500	7,617	6,134	1,170	313	84.6
Enrollment 1,500-5,999	8,549	6,715	1,441	393	82.4
Enrollment 6,000 or more	1,969	1,556	319	94	82.2

[1]The 800 ineligibles include graduates that did not receive their degree within the time frame (375), those living outside the country (368), those that received a degree other than bachelor's or master's (27), deceased or incapacitated (25), and duplicates (5).

[2]The weighted response rate is the weighted number of completed surveys divided by the sum of the weighted number of completed surveys and nonrespondents.

[3]The degree codes are those reported by institutions for the entire sample and may not match data reported by the respondents on the survey.

[4]For respondents, the gender code was taken from the survey data. For nonrespondents, the gender was coded from the name. For ineligibles, the gender was not coded, since it was not needed to calculate response rates.

[5]The major and race/ethnicity codes are those reported by institutions for all bachelor's degree recipients and may not match data reported by the respondents on the survey. These items were collected from institutions for bachelor's degree recipients only, since they were not needed for sampling master's degree recipients. Therefore, the columns for major and race/ethnicity will sum to the bachelor's degree totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *1991 Recent College Graduates Survey*.

weighted response rate is 83.6 percent, and for master's degree recipients, it is 82.0 percent. The weighted overall response rate (percent of all graduates represented by our sample) is calculated as the school response rate times the graduate response rate (.95 x .832 = .79).

Editing and Item Nonresponse Imputation

Most editing checks were included within the CATI system, including range checks, skip pattern rules, and logical consistency checks. Skip patterns were controlled by the CATI system so that inappropriate items were avoided. For logical consistency check violations, a special CATI screen appeared that explained the discrepancy, displayed responses to the relevant items, and allowed the interviewer to enter a correction. Some additional logical consistency checks were made during the data preparation operation, and all edit checks were rerun after item nonresponse imputation was completed.

Item nonresponse occurred when a graduate cooperated in the survey but did not answer one or more survey questions. Since the study was collected by telephone, only a small amount of item nonresponse occurred. Item response rates for the questionnaire items included in this report appear in Table C-4. Imputation for item nonresponse was performed for each survey item to make the study results simpler to present and allow consistent totals to be obtained when analyzing different questionnaire items. Imputation was performed using a "hot-deck" procedure. Hot-deck methods estimate the missing value of an item by using value(s) of the same item from other record(s) in the same file. Using the hot-deck procedure, each missing questionnaire item was imputed separately. First, respondent records were sorted by items thought to be related to the missing item. Next, a value was imputed for each item nonresponse "recipient" from a respondent "donor" within the same subgroup. The results of the imputation procedure for each item were reviewed to ensure that the imputation plan had been followed correctly. In addition, all edit checks were run on the imputed file to be sure that no data inconsistencies were created by imputation.

Sampling Errors

The findings in this report are estimates based on the sample selected and, consequently, are subject to sampling variability. If the interviews had been conducted with a different sample, the responses would not have been identical; some figures might have been higher, while others might have been lower.

The standard error is a measure of the variability of estimates due to sampling. It indicates the variability of a sample estimate that would be obtained from all possible samples of a given design and size. Standard errors can be used as a measure of the precision expected from a particular sample. Appendix B contains standard errors for each estimate included in this report.

If all possible samples were surveyed under similar conditions, intervals within plus or minus 1.96 standard errors of a particular statistic would include the true population parameter being estimated in about 95 percent of the samples. This is the 95 percent confidence interval. For example, the estimated mean annual salary for bachelor's degree NQTs working full time is $19,190 and the estimated standard error is $152. The 95 percent confidence interval for the statistic extends from:

$19,190 - ($152 x 1.96) to $19,190 + ($152 x 1.96)
= $18,892 to $19,488

This means that one can be confident that intervals constructed in this way contain the true population parameter 95 percent of the time.

Estimates of standard errors were computed using a technique known as jackknife replication. As with any replication method, jackknife replication involves constructing a number of subsamples (replicates) from the full sample and computing the statistic of interest for each replicate. The mean square error of the replicate estimates around their corresponding full sample estimate provides an estimate of the sampling variance of the statistic of interest. To construct the

Table C-4. Questionnaire item response rates for items included in this report.

Question	Weighted item response rate (percent)*	Description
Q4	100.0	Was this degree bachelor's or master's
Q6	100.0	Major field of study
Q10	99.0	Gradepoint average for undergrad level
Q23	99.8	Was R working for pay in reference week
Q24	99.4	Was R looking for work in reference week
Q25	99.1	Was R available to work in reference week
Q26	99.4	What was main reason for not working
Q28	99.9	Occupation verbatim
Q32	99.8	Was this job full time or part time
Q33	96.6	Would R have wanted full-time job
Income (Q37,Q39,Q87C)	94.3	Income from principal job
Q40	99.5	Was R working for pay at second job
Q41	99.4	Was second job as school teacher
Q42	99.0	Was college degree required for main job
Q43	99.7	How close was major related to main job
Q45	99.6	What best describes job/career on April 22
Q46	99.7	Was R looking for another job - April 22
Q50	99.4	Is R eligible to teach at any level
Q52	99.7	When did R first become eligible
Q53	99.9	Does R have certificate to teach school
Q55	97.2	Date R got certificate to teach
Q58	97.7-99.9	Field(s) eligible to teach
Q59	96.6-99.6	Field(s) certified to teach
Q62	99.7	Before degree, was R employed as teacher
Q64	100.0	Has R ever applied for job as teacher
Q65	99.1	Main reason R did not apply for job as teacher
Q66	99.2	Has R taught any grade since degree
Q67	98.9	Date when R taught any grade since degree
Q68	99.3	Principal job as school teacher, at any level
Q70	99.8	Control of school (public/private) R taught in
Q71	99.2-99.3	Field(s) R was teaching in
Q72	89.1	What field did R teach most of the time
Q73	99.1	Any fields not adequately prepared to teach
Q76	99.7	Has R taught LEP students
Q78	99.3-99.5	Has R taught classes in BE, ESL, or LEP
Q79	99.1	How well prepared is R to teach LEP
Q80	99.8	Did R teach special ed students
Q81	99.7	Did R teach primarily in special ed
Q84B	99.6	Did R feel prepared to teach special ed
Q87	92.8	Have teaching contract or other arrangement
Q87C	94.9	Annual teaching income
Q87D	99.3	Any summer employment outside contract
Q87E	96.6	Income from summer employment
Q88	95.0	Reason for R becoming teacher
Q89A	99.3	Does R expect to teach 1991-1992 year
Q89B	100.0	Primary reason for not teaching next year
Q90	99.5	Date of birth of respondent
Q91	100.0	Gender of respondent
Q94	99.9	Is R of Hispanic origin
Q95	98.1	What is R's race
Q96	99.8	What was R's marital status in April 91
Q101	97.9	Highest level of education expected
Q102	99.0	Highest grade R's father completed
Q104	99.1	Highest grade R's mother completed

*Item response rates were calculated as the weighted number of respondents who answered a given item divided by the weighted number of respondents for whom the item was applicable.

replications, 50 stratified subsamples of the full sample were created. Fifty jackknife replicates were then formed by deleting one subsample at a time from the full sample. WESVAR, a proprietary computer program available at Westat, was used to calculate the estimates of standard errors.

Tests of Statistical Significance

The comparisons in the text have all been tested for statistical significance to ensure that the differences are larger than those that might be expected due to sampling variation. All differences cited in the text or marked with anasterisk (*) in the figures are significant at the 5 percent level of significance with pair-wise t tests using a Bonferroni adjustment to the critical value for multiple comparisons. The following is a description of the procedures used to test significance including the Bonferroni adjustment for multiple comparisons.

The student's t statistic can be used to test the likelihood that the differences between two percentages are larger than would be expected by sampling error.

$$t = \frac{P_1 - P_2}{\sqrt{se_1^2 + se_2^2}}$$

where P_1 and P_2 are the estimates to be compared and se_1 and se_2 are their corresponding standard errors.

The significance of the difference between the overall mean (i.e., the mean of the entire population) and a subgroup mean (e.g., between the mean salary of all graduates and the mean salary of graduates in a particular major) was tested using a t-test in which the standard error of the difference was adjusted for the covariance between the subgroup and the total group. The exact formula for the appropriate t-test is

$$t = \frac{\bar{X}_S - \bar{X}_T}{[se_S^2 + se_i^2 - 2(p)\, se_S^2]^{1/2}}$$

where $\bar{X}_S$ and se_S are the mean and standard error for the subgroup; $\bar{X}_T$ and se_T are the mean and standard error for the total group; and p is the proportion of the total group contained in the subgroup.

As the number of comparisons on the same set of data increases, the likelihood that the t value for at least one of the comparisons will exceed 1.96 simply by chance, when in fact there is no difference in the underlying population, increases. For a single comparison, there is a 5 percent chance that the t value will exceed 1.96 due to chance. For five tests, the risk of getting at least one t value that high increases to 23 percent, and for 20 comparisons, to 64 percent.

One way to compensate for this danger when making multiple comparisons is to adjust the alpha level to take into account the number of comparisons being made. For example, rather than establishing an alpha level of 0.05 for a single comparison, the alpha level is set to ensure that the likelihood is less than 0.05 that the t value for any of the comparisons exceeds the critical value by chance alone when there are truly no differences for any of the comparisons. This Bonferroni adjustment is calculated by taking the desired alpha level and dividing the number of possible comparisons, based on the variable(s) being compared. The t value corresponding to the revised, lower alpha level must be exceeded in order for any of the comparisons to be considered significant.

To test for differences using the Bonferroni adjustment to the alpha level the following steps would be involved.

- Establish the number of comparisons
  - In the case of comparisons between subgroups, for example, the

unemployment rate of whites, blacks and Hispanics, the number of comparisons would be three (whites and blacks; whites and Hispanics; and blacks and Hispanics). The number of two-way comparisons that can be made equals [(n)(n-1)]/2 where n is the number of variable categories. Thus, with three categories the number of possible comparisons is [(3)(2)]/2 = 3.

- In the case of comparing a subgroup estimate to the estimate for the total (rather than comparing estimates between subgroups, as above), the number of comparisons equals the number of subgroups. For example, to compare the difference between the mean salary of each of major fields with the mean salary for the total graduates, the number of comparisons is 11, one for each of the major field categories. (Health; engineering; math, computer sciences and physical sciences; business/management; social sciences; history; biological sciences; public affairs/social services; psychology; education; and humanities are each compared to the national average.)

- Divide the desired alpha level, 0.05, by the number of comparisons to obtain the new alpha level. In the first example this would be 3 (0.05/3 = 0.0166); in the second example this would be 11 (0.05/11 = .0045).

- Consult table of t statistics (or the standard normal table for z values if the N is large) to find the t value that corresponds to the alpha level (in the first example t = 2.39 for alpha = 0.0166; in the second example t = 2.85 for alpha = 0.0045).

All comparisons in this report were tested using the Bonferroni adjustments for the t tests.

Design Effects

The design effect is the ratio of the variance of an estimate computed from the sample to the variance that would have been obtained if a simple random sample had been selected. In effect, the design effect indicates the impact of the sample design on the precision of the estimates. Design effects greater than unity indicate that the sample design resulted in increases in the variance due to factors such as clustering of the sample, differential sampling rates, or other adjustments in the design and estimation stages of the sample. Table C-5 contains design effects and root design effects (the square root of the design effects) for selected classification variables included in this report. The RCG survey has a clustered sample with many graduates being sampled from the same sample institution. While this method of sampling is very cost effective, clustering generally results in design effects that are greater than unity.

Nonsampling Errors

In addition to sampling errors, the survey estimates are also subject to nonsampling errors that can arise because of nonobservation (nonresponse or noncoverage), reporting errors, and errors made in the collection and processing of data. These errors can sometimes bias the data. The RCG:91 survey included procedures for both minimizing and measuring nonsampling errors.

Procedures to minimize nonsampling errors were followed throughout the survey. Extensive questionnaire design and testing was conducted, including two types of pretests: (1) the questionnaire was pretested informally with several recent college graduates before the CATI survey was finalized; and (2) a formal CATI pretest was conducted with part of the main study sample of graduates. Strict training and monitoring of telephone interviewers and data processing staff was conducted to help ensure the consistency and accuracy of the data file. Data collection was conducted almost entirely by telephone to help reduce the amount of item nonresponse and item inconsistency. Mail questionnaires were used for cases difficult to complete by telephone (unlisted numbers, those without telephones, and telephone refusals). Nonresponse was handled in ways designed to minimize the impact on data quality (i.e., through weighting adjustments by strata for questionnaire

Table C-5. Design effects and root design effects for 1989-90 bachelor's degree recipients 1 year after graduation, by graduate characteristics

Characteristic	Sample Size	Design Effect	Root Design Effect
Newly qualified teachers (NQTs)	2,365	0.72	0.85
Race/ethnicity			
American Indian/Alaskan Native	63	0.97	0.98
Asian/Pacific Islander	392	0.83	0.91
Black, non-Hispanic	1,379	3.50	1.87
Hispanic	753	1.67	1.29
White, non-Hispanic	10,301	2.91	1.71
Type of major field of study			
Professional fields	7,009	3.01	1.73
Arts and sciences fields	4,476	3.07	1.75
Other fields*	1,403	1.59	1.26
Major field of study			
Business and management	2,682	3.30	1.82
Education	2,361	†	†
Engineering	849	7.94	2.82
Health profession	754	7.08	2.66
Public affairs/social service	363	1.76	1.33
Biological sciences	490	0.96	0.98
Math, computer sciences, physical sciences	984	3.05	1.75
Social sciences	1,102	1.81	1.34
History	237	0.95	0.98
Humanities	1,069	3.30	1.82
Psychology	594	1.28	1.13
Other fields*	1,403	1.59	1.26
Age			
20-23	3,331	4.27	2.07
24-25	5,043	1.84	1.36
26 and older	4,514	5.43	2.33

Table C-5. Design effects and root design effects for 1989-90 bachelor's degree recipients 1 year after graduation, by graduate characteristics (continued)

Characteristic	Sample Size	Design Effect	Root Design Effect
Educational expectations			
Bachelor's degree	1,987	1.16	1.08
Master's degree	8,147	1.09	1.04
Doctoral degree	1,830	1.19	1.09
First-professional degree	924	1.48	1.22
Occupation			
Business/Managers	1,350	0.97	0.98
Educators	1,946	0.61	0.78
Engineers	526	5.62	2.37
Health professionals	588	5.05	2.25
Public affairs/social services	346	1.17	1.08
Biological scientists	224	0.90	0.95
Math and physical scientists	135	0.66	0.81
Computer scientists and programmers	402	2.32	1.52
Communications	169	0.88	0.94
Writers, artists, etc.	174	1.73	1.31
Technicians	286	1.08	1.04
Administrative support/clerical	1,551	0.85	0.92
Crafts/operators/laborers	312	1.58	1.26
Sales personnel	884	1.14	1.07
Service personnel	429	0.55	0.74
Other	151	3.27	1.81

† This category had zero standard error due to poststratification.

*Other fields includes agriculture and natural resources, architecture and environmental design, area and ethnic studies, communications, consumer/personal/miscellaneous services, home economics, industrial arts, law, liberal/general studies, library and archival sciences, military sciences, multi/interdisciplinary studies, personal and social development, and trade and industrial.

nonresponse, and through hot-deck imputation for item nonresponse).

While general sampling theory can be used to estimate the sampling variability of a statistic, the measurement of nonsampling errors is not easy, and usually requires that an experiment be conducted as part of the data collection procedures, or that data external to the study be used. For RCG:91, an evaluation study was conducted to measure some of the potential nonsampling errors associated with the survey. The Evaluation Study consisted of three sub-studies: (1) Response Validity - the external validity of responses to items concerning teacher certification compared to data from state certification agencies; (2) Response Reliability - the reliability of responses to a select number of key items; and (3) Nonresponse Analysis. The 1991 RCG Evaluation Study Report presents detailed results from these studies, including the validity of teacher certification items relating to overall certification, type of certification, and subject certification. Selected summary results from the reliability study are presented below.

For the response reliability study, a sample of 583 respondents was drawn to be re-asked selected questionnaire items. Of these, 512 completed the reinterview, for a response rate of 88 percent. Table C-6 shows the comparisons of reinterview and main study data for items in this report. Results are reported as the gross difference rate and the net difference rate.

The gross difference rate is the weighted percent of cases that were reported differently in the original and reinterview surveys. For example, question 43 (Was the respondent's job related to major field of study) has a gross difference rate of 6.91. This means that 6.91 percent of the respondents answered differently on the reinterview than they did on the original interview. The net difference is the difference between the total number of respondents with a characteristic as reported in the reinterview and the total number as reported in the original interview. It includes off-setting differences. The net difference rate is the ratio of the net difference to the total number of reinterviews. It is useful in determining the direction of bias. For example, the net difference rate for the question cited above (relationship of job to major) was only 2.51. This indicates that for this question, 2.51 percent more graduates responded that their job was related to their major on the original than did on the reinterview survey.

Table C-6. Reinterview results for selected items included in this report

	Item	Unweighted number of cases[2]	Gross difference rate	Net difference rate
XNQT	Newly qualified teacher status[1]	512	4.32%	-1.72%
Q6	Major field (12 classifications)[1]	512	3.17	0.60
Q10	Gradepoint average for undergrad level	506	13.63	-1.08
Q23	Was R working for pay in reference week	510	2.31	0.73
Q24	Was R looking for work in reference week	66	15.12	0.14
Q25	Was R available to work in reference week	67	5.09	1.23
Q26	What was main reason for not working[1]	52	7.29	-7.29
Q28	Occupation[1]	423	2.56	0.18
Q32	Was this job full time or part time	423	5.14	1.24
Q39	Annual income rounded to $2,000	398	14.97	3.13
	Annual income rounded to $4,000	398	8.54	2.75
	Annual income rounded to $5,000	398	6.51	1.02
Q40	Was R working for pay at second job	423	3.45	0.21
Q42	Was college degree required for main job[1]	419	11.68	-2.30
Q43	Was job related to major (in two categories)[1]	423	6.91	2.51
Q45	Does job have career potential (in two categories)[1]	423	10.28	0.61
Q50	Is R eligible to teach at any level	512	1.43	0.13
Q52	When did R first become eligible	113	6.55	-3.96
Q53	Does R have certificate to teach school	512	1.26	-0.14
Q55DATE	Date R got certificate to teach: + - 2 months[1]	115	20.50	0.45
Q58	Subjects eligible to teach (all subjects combined)[1]	2642	11.42	-1.74
Q59	Subjects certified to teach (all subjects combined)[1]	2733	8.55	-1.39
Q62	Before degree, was R employed as teacher[1]	512	3.96	1.28
Q64	Has R ever applied for job as teacher[1]	512	3.15	-0.65
Q65	Main reason R did not apply for teacher[1]	362	4.03	0.43
Q66	Has R taught any grade since degree[1]	161	18.84	-17.19
Q67DATE	Date when R started teaching - month+year	109	15.17	6.02
Q68	Principal job as school teacher,any level	132	12.57	-11.57
Q71	Subject field R was teaching in (all subjects combined)[1]	2838	6.30	-1.48
Q87	Have teaching contract/other arrangement[1]	84	1.81	-1.81
Q87c	Annual teaching income rounded to $2,000[1]	59	9.33	3.46
	Annual teaching income rounded to $4,000[1]	59	9.33	3.46
	Annual teaching income rounded to $5,000[1]	59	7.70	5.09
Q87D	Any summer employment besides teaching[1]	63	8.98	6.30
Q94	Is R of hispanic origin[1]	510	0.46	-0.26
Q95	What is R's race[1]	500	1.05	0.17

[1]Unreconciled results reported. All others represent reconciled results.

[2]The unweighted number is the number of cases where the item was applicable and reported for both the main interview and the reinterview. For Q58, Q59, and Q71, the number of cases is the number of subjects for all cases where the items were applicable and reported.

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APPENDIX D

DEFINITIONS OF TERMS AND CODES USED IN THIS REPORT

DEFINITIONS OF TERMS AND CODES USED IN THIS REPORT

1. **NEWLY QUALIFIED TEACHERS (NQTs)**: Several questions on teaching status, eligibility, and certification to teach were used to assign the NQT status. A graduate is considered to be a newly qualified teacher if one or more of the following criteria apply:

   - The graduate became certified to teach between July 1, 1989, and June 30, 1990, and had not taught prior to completing the 1989-90 degree.
     IF (Q53=1 & ((7< = Q55MM < = 12) AND Q55YY = 89) OR
     ((1 < = Q55MM < = 6) & Q55YY = 90)) & Q62 =2 THEN XNQT=1;

   - The graduate became eligible for a regular or standard certificate or license to teach between July 1, 1989, and June 30, 1990, and had not taught prior to completing the 1989-90 degree.
     ELSE IF (Q50= 1 AND Q52=2 AND Q62 =2) THEN XNQT=1;

   - The graduate is not certified or eligible to teach, but started teaching since receiving the 1989-90 degree and after June of 1989, and had not taught prior to receiving the degree.
     ELSE IF (Q50 = 2 OR Q53 =2) AND Q66=1 AND
     (((Q67MM > = 7) AND Q67YY= 89) OR Q67YY > = 90) AND Q62=2 THEN XNQT=1;

   - The graduate was working in a second job as a teacher during the week of April 22, 1991, and had not taught prior to receiving the 1989-90 degree.
     ELSE IF (Q40=1 AND Q41 =1 AND Q62=2) THEN XNQT=1;

   Relevant Questionnaire Items:

   Question 40. In addition to the principal job you already described, were you **working for pay** at a second job during the week of April 22, 1991? (yes/no)

   Question 41. Was the second job that of a school teacher at any grade level from prekindergarten through grade 12? [EXCLUDE JOB AS TEACHER'S AIDE OR DAY CARE CENTER WORKER WITH NO INSTRUCTIONAL DUTIES. ALSO EXCLUDE STUDENT TEACHING AND TUTORING] (yes/no)

   Question 50. Are you eligible to teach school at any grade level from prekindergarten through grade 12? That is, have you completed all coursework, including student or practice teaching, required for a regular or standard certificate or license to teach at any or all levels in at least one State? (yes/no)

   Question 52. When did you first become eligible for a certificate or license?

BEFORE JULY 1, 1989	1
JULY 1, 1989 - JUNE 30, 1990 . . .	2
AFTER JUNE 30, 1990	3

   Question 53. Do you have any type of regular or temporary certificate or license to teach school at any grade level from prekindergarten through grade 12, in at least one state? That is, are you certified to teach in at least one state? [INCLUDE INITIAL, REGULAR OR STANDARD, PROVISIONAL, EMERGENCY, PROBATIONARY, OR TEMPORARY] (yes/no)

   Question 55. In what month and year did you first receive a certificate or license to teach?

Question 62. Prior to completing the requirements for your 1989-90 degree, were you at any time employed as a school teacher at any grade level, from prekindergarten through grade 12? Please exclude student or practice teaching and work as teacher's aide. (yes/no)

Question 66. Have you taught at any grade level, from prekindergarten through grade 12, since receiving your 1989-90 degree? (yes/no)

Question 67. In what month and year did you start teaching?

2. **RACE/ETHNICITY**: Two survey questions were used to determine race/ethnicity. All graduates were asked whether they were of Hispanic or Spanish origin, and what race they considered themselves. Based on the responses to these questions, graduates were coded into the following categories:

- American Indian/Native Alaskan (If Q94=no and Q95=4)
- Asian or Pacific Islander (If Q94=no and Q95=3)
- Black, non-Hispanic (If Q94=no and Q95=2)
- Hispanic (If Q94=yes)
- White, non-Hispanic (If Q94=no and Q95=1)

Relevant Questionnaire Items:

Question 94. Are you of Hispanic or Spanish origin? (yes/no)

Question 95. What race do you consider yourself?

White [CAUCASIAN] 1
Black [AFRICAN AMERICAN] 2
Asian or Pacific Islander 3
Native American or Alaskan Native
[AMERICAN INDIAN] 4

3. **EDUCATIONAL EXPECTATIONS**: In question 101, graduates were asked to report the highest level of education that they expect to complete. Based on responses to this question, graduates were coded into the categories listed below. If Q101 was answered "Other certificate/award", then graduates were coded according to their 1989-90 degree (reported in Q4).

- Bachelor's degree (Q101 = 1 or 2)
- Master's degree (Q101 = 3 or 4)
- Doctoral degree (Q101 = 5)
- First professional degree (Q101 = 6)

Relevant Questionnaire Item:

Question 101. What is the highest level of education you expect to complete?

BACHELOR'S DEGREE 1
POST-BACCALAUREATE CERTIFICATE 2
MASTER'S DEGREE 3
POST-MASTER'S CERTIFICATE 4
DOCTORAL DEGREE (PH.D. OR ED.D.) . 5
FIRST PROFESSIONAL DEGREE 6
OTHER CERTIFICATE/AWARD (SPECIFY) . 91

4. **HIGHEST LEVEL OF FATHER'S AND MOTHER'S EDUCATION:** Based on the responses to Q102 and Q104 (which contain the overall level of education), and Q1025 and Q1045 (which contain the level of college education for parents who attended college), the following categories were created:

- High school diploma or less (Q102 = 1, 2, 3) (Q104 = 1, 2, 3)
- Vocational, trade, or business school after high school (Q102 = 4) (Q104 = 4)
- College education - bachelor's degree or less (Q1025 = 1, 2, 3) (Q1045 = 1, 2, 3)
- Postbaccalaureate education (Q1025 = 4, 5) (Q1045 = 4, 5)

Relevant Questionnaire Items:

Question 102. What was the highest level of education your father or male guardian completed?

Question 104. What was the highest level of education your mother or female guardian completed?

LESS THAN HIGH SCHOOL DIPLOMA	1
GED OR HIGH SCHOOL EQUIVALENCY	2
HIGH SCHOOL GRADUATION (INCLUDES VOCATIONAL HIGH SCHOOL)	3
VOCATIONAL, TRADE OR BUSINESS SCHOOL AFTER HIGH SCHOOL	4
COLLEGE OR UNIVERSITY [INCLUDES "SOME COLLEGE" AND GRADUATE SCHOOL]	5
NEVER KNEW MOTHER OR FEMALE GUARDIAN	95

Question 1025, 1045. Was that...

Less than 2 years of college	1
2 or more years of college (including 2-year degree)	2
Bachelor's degree or equivalent (4- or 5-year degree)	3
Master's degree or equivalent, or	4
Ph.D., M.D., or other advanced professional degree?	5

5. **LABOR FORCE STATUS**: Graduates were first asked whether they were working for pay during the week of April 22, 1991. Working graduates were asked whether their job was full or part-time, and whether they would have wanted full-time work if available. Graduates who were not working were asked whether they were looking for work, and whether they were available for work during that week. Based on the responses to these questions, the following labor force status categories were formed:

- **Working full time**: Graduates who said they were working for pay full time during the week of April 22, 1991. (Q23 = yes and Q32 = full time).
- **Working part time, wanted part time**: Graduates who said they were working for pay part time during the week of April 22, 1991, and that they preferred part time work. (Q23 = yes and Q32 = part time and Q33 = part time).
- **Working part time, wanted full time**: Graduates who said they were working for pay part time during the week of April 22, 1991, and that they would have wanted full time work if it had been available. (Q23 = yes and Q32 = part time and Q33 = full time).
- **Unemployed**: Graduates who were not working for pay, but were looking and available for work during the week of April 22, 1991 (Q23 = no and Q24 = yes and Q25 = yes).
- **Not in the labor force**: Graduates who were not working for pay, and either were not looking or not available for work during the week of April 22, 1991 ((Q23 = no and (Q24 = no or Q25 = no)).

Relevant Questionnaire Items:

Question 23. Please think back to April 22 1991. Were you working for pay during this week? Please include any paid job from which you were on leave or vacation. Exclude graduate student assistantships and work study. (yes/no)

Question 24. Were you **looking** for work during the week of April 22, 1991? (yes/no)

Question 25. Were you **available** for work during the week of April 22, 1991? (yes/no)

Question 32. Was this job full time or part time during the week of April 22, 1991 (full time/part time)?

Question 33. Would you have wanted full time work if available or did you prefer part time work? (full time/part time)

6. **ELEMENTARY/SECONDARY (PK-12) TEACHERS**: Graduates who indicated that their principal job the week of April 22, 1991, was that of a school teacher in any grade prekindergarten through grade 12 were included in this category. Interviewers were instructed to exclude tutors, college teachers, and day care workers with little or no instructional duties. Substitute teachers in grades PK-12 were included. Based on the description of the occupation provided by the graduates, interviewers recorded the correct answer to Q28VERIFY, reading the question as necessary. If the response to Q28VERIFY was yes, then Q68 was automatically set to yes by the CATI system. Otherwise, Q68 was read to the graduate. Any discrepancies between the answers to Q28VERIFY and Q68 were resolved with the graduate during the CATI interview.

   Relevant Questionnaire Items:

   Q28VERIFY. [READ IF NECESSARY: WAS THE JOB RECORDED ABOVE THAT OF A SCHOOL TEACHER AT ANY GRADE LEVEL FROM PREKINDERGARTEN THROUGH GRADE 12? EXCLUDE TUTORS, COLLEGE TEACHERS, AND DAY CARE WORKERS WITH LITTLE OR NO INSTRUCTIONAL DUTIES] (yes/no)

   Question 68. During the week of April 22, 1991 was your principal job that of a school teacher at any grade level from prekindergarten through grade 12? [PRINCIPAL JOB MEANS THE ONE FROM WHICH YOU EARN MOST OF YOUR INCOME] (yes/no)

7. **SUBSTITUTE TEACHERS (PK-12)**: Graduates in the elementary/secondary (PK-12) teacher category described above were divided into substitutes and nonsubstitutes for some analysis. Teachers who reported substitute teaching in question 87 were identified as substitutes, and all other PK-12 teachers were considered nonsubstitutes. For some salary analysis, only teachers who reported having a teaching contract in question 87 were included.

   Relevant Questionnaire Item:

   Question 87. Were you working under a teaching contract or did you have some other arrangement, such as substitute teaching?

TEACHING CONTRACT	1
SUBSTITUTE TEACHING	2
INTERNSHIP	3
NO CONTRACT	4
PRESCHOOL TEACHER/PRESCHOOL CONTRACT	5
OTHER (SPECIFY)	91

8. **JOB PERCEPTIONS**: The job perceptions category includes the following items:

- Actively looking for a different job (Q46 = yes).
- Job related to major field of study (Q43 = closely related or somewhat related).
- Job has career potential (Q45 = definite or possible career potential).
- Degree required for job (Q42 = yes).

Relevant Questionnaire Items:

Question 42. Was a 4-year college degree required in order to obtain your principal job during the week of April 22, 1991? (yes/no)

Question 43. To what extent was your work on this principal job related to your major field of study for your 1989-90 degree. Was it ...

Closely related, ... 1
Somewhat related, or 2
Not related 3

Question 45. Which of the following statements best describes the principal job you held on April 22, 1991 with regard to career potential?

A job with definite career potential, 1
A job with possible career potential, or 2
A temporary or permanent job without much career potential? 3

Question 46. In the period around April 22, 1991, were you actively looking for a different principal job? (yes/no)

9. **APPLIED TO TEACH**: Graduates who applied to teach at any grade level PK-12 since or immediately prior to receiving their 1989-90 degree were included in this category.

Relevant Questionnaire Item:

Question 64. Have you applied for a job as a school teacher at any grade level from prekindergarten through grade 12 since or immediately prior to receiving your 1989-90 degree? (yes/no)

10. **SCHOOL CONTROL**: Elementary/secondary teachers were asked in what type of public or private school they taught most of the time. The four categories included in question 70 were grouped into two categories (public and private) for analysis.

Relevant Questionnaire Item:

Question 70. In which of the following type of public or private school did you teach in this principal job most of the time? Was it...

a public school operated by a local school district, 1
a public school operated by a state or federal agency, 2
a private school (religiously affiliated), or 3
a private school (not religiously affiliated). 4

11. **TEACHING LEVEL**: Elementary teachers were identified as those who reported in question 71 that they taught any elementary fields during the week of April 22, 1991. All other teachers were identified as secondary.

Relevant Questionnaire Item:

Question 71. Please tell me all the fields in which you were teaching during the week of April 22, 1991.

ANY ELEMENTARY FIELDS (yes/no)

12. **ANNUAL SALARY**: There are three survey questions that request salary information. As shown below, question 37 requests annual income information for graduates who were self-employed during the week of April 22, 1991. Question 39 requests salary information for all other graduates working for pay during that week. Question 87C requests annual income information for teachers working under a teaching contract that week. The annual salary estimates used to calculate the means included in this report were created according to the following rules:

- If the graduate was self-employed, the personal annual income (from Q37) was used.
- If the graduate was working under a teaching contract, the annual income from that contract (from Q87C) was used.
- For all other graduates working for pay, the salary rate reported in Q39 was converted to an annual amount, if necessary, using the hours per week reported in Q38.

Relevant Questionnaire Items:

Self-employed:

Question 37. What was your personal annual income from your business before taxes? [ENTER IN DOLLARS]

Not Self-employed:

Question 38. How many hours per week were you usually employed at this job? [PLEASE INCLUDE ONLY THOSE HOURS FOR WHICH RESPONDENT IS PAID]

Question 39. At what rate (before deductions) were you paid on this job?
AMOUNT: _____
PER: HOUR/DAY/WEEK/MONTH/YEAR

Teachers under contract:

Question 87C. What was your annual income from the principal teaching contract under which you were working on April 22, 1991? [ENTER IN DOLLARS]

13. **SUMMER EMPLOYMENT AND SALARY**: Elementary/secondary teachers who indicated in question 87 that they were working under a teaching contract were asked whether they expected to earn additional income from summer employment and the amount of the additional income.

Relevant Questionnaire Items:

Question 87D. Do you expect any other earned income from summer employment outside of your principal teaching job in 1991? (yes/no)

Question 87E. What is the total amount you expect to earn from summer employment? [ENTER IN DOLLARS]

14. **ELIGIBLE AND/OR CERTIFIED TO TEACH**: Eligible to teach is defined as having completed all coursework, including student or practice teaching required for a regular or standard certificate or license to teach at any or all levels PK-12 in at least one state. Certified is defined as having any type of certificate or license (regular or standard, provisional, emergency, probationary, or temporary) to teach school at any grade level PK-12 in at least one state.

Relevant Questionnaire Items:

Question 50. Are you eligible to teach school at any grade level from prekindergarten through grade 12? That is, have you completed all coursework, including student or practice teaching, required for a regular or standard certificate or license to teach at any or all levels in at least one State? (yes/no)

Question 53. Do you have any type of regular or temporary certificate or license to teach school at any grade level from prekindergarten through grade 12, in at least one State? That is, are you certified to teach in at least one state? [INCLUDE REGULAR OR STANDARD, PROVISIONAL, EMERGENCY, PROBATIONARY, OR TEMPORARY]

15. **PREPARED TO TEACH**: Elementary/secondary teachers were asked whether they felt prepared to teach all their assigned subjects, limited English proficient (LEP) students, and students requiring special education services. For the following categories, the percent who felt prepared to teach within that category was reported:

- **All subjects assigned to teach**: All elementary/secondary teachers were included in this category. The percent who felt prepared was the percent who answered no to question 73.

- **Limited English Proficient (LEP) students in any class**: Elementary/secondary teachers who said they had taught any classes with limited English proficient students since receiving their 1989-90 degrees (question 76 = yes) were included. The percent who felt prepared was the percent who answered question 79 as very well prepared, well prepared, or satisfactorily prepared.

- **Classes in Bilingual Education (BE), English as a Second Language (ESL), or Limited English Proficient (LEP)**: Elementary/secondary teachers who answered question 78 as yes to having taught any classes in BE, ESL, or LEP since receiving their 1989-90 degrees were included. The percent who felt prepared was the percent who answered question 79 as very well prepared, well prepared, or satisfactorily prepared.

- **Special education students in any class**: Elementary/secondary teachers who said they had taught any students who required special education services since receiving their 1989-90 degrees (question 80 = yes) were included. The percent who felt prepared was the percent who said they felt adequately prepared to teach students requiring special education services (question 84B = yes).

- **Teachers teaching primarily in the field of special education**: Elementary/secondary teachers who said they were teaching primarily in the field of special education (question 81 = yes) were included. The percent who felt prepared was the percent who said they felt adequately prepared to teach students requiring special education services (question 84B = yes).

Relevant Questionnaire Items:

Question 73. Of those fields in which you were teaching, were there any that you did not feel adequately prepared to teach? (yes/no)

Question 76. Have you taught any classes with limited English proficient students (LEP) since receiving your 1989-90 degree? (yes/no)

Question 78. Which of the following classes have you taught since obtaining your 1989-90 degree? Have you taught....

		Yes	No
a.	Bilingual Education (BE)?	1	2
b.	English as a Second Language (ESL)?	1	2
c.	Limited English Proficient (LEP)?	1	2

Question 79. How well prepared do you feel you are to teach limited English proficient students in your classes? Do you feel...

Very well prepared, ... 1
Well prepared, ... 2
Satisfactorily prepared, ... 3
Not well prepared, or 4
Not at all prepared? 5

Question 80. Since receiving your 1989-90 degree, have you taught any students who required special education services? (yes/no)

Question 81. Were you teaching primarily in the field of special education? (yes/no)

Question 84B. Did you feel adequately prepared to teach students requiring special education services? (yes/no)

16. **MAJOR FIELD OF STUDY**: Graduates were asked to report their major field of study for their 1989-90 degree. Response categories for this question were precoded with the most common majors. Any major that did not fit into these precoded categories was entered verbatim into the other (specify) field. These responses were then coded at the two-digit level into the Classification of Instructional Program (CIP) codes as shown in exhibit D-1. For analysis, majors were grouped into the following categories:

Professional fields
- Business and management
- Education
- Engineering
- Health professions
- Public affairs/social services (protective services, parks and recreation)

Arts and sciences fields
- Biological sciences (life sciences)
- Mathematics, computer sciences, and physical sciences
- Social sciences
- History
- Humanities (foreign languages, letters, philosophy, religion, theology, visual and performing arts)
- Psychology

Other fields

All other fields are grouped into one category, and include the following:
- Agriculture and natural resources
- Architecture and environmental design
- Area and ethnic studies
- Communications
- Consumer, personal, and miscellaneous services
- Home economics
- Industrial arts
- Law
- Liberal/General studies
- Library and archival sciences
- Military sciences
- Multi/Interdisciplinary studies
- Personal and social development
- Trade and industrial

Relevant Questionnaire Item:

Question 6. What was your major field of study for your 1989-90 {BACHELOR'S/MASTER'S} degree? [CODE ONLY ONE: IF RESPONDENT STATES FIELD NOT **VERBATIM** ON LIST, CODE 91 OTHER]

Exhibit D-1. Classification of Instructional Program (CIP) codes used for coding major field of study on RCG:91

Agriculture
- 01. Agribusiness and Agricultural Production
- 02. Agricultural Sciences
- 03. Renewable Natural Resources

Architecture and Environmental Design
- 04. Architecture and Environmental Design

Area and Ethnic Studies
- 05. Area and Ethnic Studies

Business
- 06. Business and Management
- 07. Business and Office
- 08. Marketing and Distribution

Communications
- 09. Communications
- 10. Communications Technologies

Computer and Information Sciences
- 11. Computer and Information Sciences

Consumer, Personal, and Miscellaneous Services
- 12. Consumer, Personal, and Miscellaneous Services

Education
- 13. Education

Engineering
- 14. Engineering
- 15. Engineering and Engineering-Related Technologies

Foreign Languages
- 16. Foreign Languages

Health
- 17. Allied Health
- 18. Health Sciences

Home Economics
- 19. Home Economics
- 20. Vocational Home Economics

Industrial Arts
- 21. Industrial Arts

Law
- 22. Law

Letters
- 23. Letters

Liberal/General Studies
- 24. Liberal/General Studies

Library and Archival Sciences
- 25. Library and Archival Sciences

Life Sciences
- 26. Life Sciences

Mathematics
- 27. Mathematics

Military Sciences
- 28. Military Sciences
- 29. Military Technologies

Multi/Interdisciplinary Studies
- 30. Multi/Interdisciplinary Studies

Parks and Recreation
- 31. Parks and Recreation

Personal and Social Development
- 32. Basic Skills
- 33. Citizenship/Civic Activities
- 34. Health-Related Activities
- 35. Interpersonal Skills
- 36. Leisure and Recreational Activities
- 37. Personal Awareness

Philosophy, Religion, and Theology
- 38. Philosophy and Religion
- 39. Theology

Physical Sciences
- 40. Physical Sciences
- 41. Science Technologies

Psychology
- 42. Psychology

Public Affairs and Protective Services
- 43. Protective Services
- 44. Public Affairs

Social Sciences
- 45. Social Sciences
- 45.08 History

Trade and Industrial
- 46. Construction Trades
- 47. Mechanics and Repairers
- 48. Precision and Production
- 49. Transportation and Material Moving

Visual and Performing Arts
- 50. Visual and Performing Arts

17. **OCCUPATION**: The graduate's occupation during the week of April 22, 1991, was coded from the verbatim responses to three questions: (1) the type of business, industry, or organization; (2) the type of work; and (3) the major job duties. Exhibit D-2 contains a list of the RCG:91 occupation codes, along with the corresponding Standard Occupational Classification (SOC) codes, and the codes used in the 1987 RCG survey. For analysis in this report, occupations were grouped into the following categories:

Occupation	RCG:91 Code
PK-12 Teachers, nonsubstitutes (Q68 = yes and Q87 = not substitute)	
PK-12 Substitute teachers (Q68 = yes and Q87 = substitute)	
Business/managers	A, A1
Other Educators (Q68 = no and occupation = education)	E22-E24
Administrative support/clerical	L
Sales personnel	K
Service personnel	M
Other	D21,E25,U,V

Relevant Questionnaire Items:

Question 27. For what type of business, industry, or organization were you working during the week of April 22, 1991? (FOR EXAMPLE: OUTPATIENT CARE FACILITY, ACCOUNTING FIRM, TELEVISION MANUFACTURER, DAYCARE CENTER, SCHOOL.)

Question 28. What type of work were you doing? (FOR EXAMPLE: REGISTERED NURSE, ELECTRICAL ENGINEER, ACCOUNTANT, SCHOOL GUIDANCE COUNSELOR, SCHOOL TEACHER.)

Question 29. What were your major activities or duties on the job? [FOR EXAMPLE: CARING FOR PATIENTS, AUDITING FIRM'S BOOKS, DESIGNING, WIRING CIRCUITS, ADVISING AND COUNSELING STUDENTS, CARING FOR CHILDREN, TEACHING STUDENTS.]

Question 68. During the week of April 22, 1991, was your principal job that of a school teacher at any grade level from prekindergarten through grade 12? [PRINCIPAL JOB MEANS THE ONE FROM WHICH YOU EARN MOST OF YOUR INCOME] (yes/no)

Question 87. Were you working under a teaching contract or did you have some other arrangement, such as substitute teaching?

TEACHING CONTRACT	1
SUBSTITUTE TEACHING	2
INTERNSHIP	3
NO CONTRACT	4
PRESCHOOL TEACHER/PRESCHOOL CONTRACT	5
OTHER (SPECIFY)	91

Exhibit D-2. Occupation codes used for RCG:91, with corresponding Standard Occupational Classification (SOC) codes, and codes used for RCG:87

1991 RCG	OCCUPATION	SOC	1987 RCG
A	Executive, administrative, and managerial occupations(except A1)	11-14	1
A1	Accountants	14	1
B	Engineers, surveyors and architects (except B1 and B2)	16	3
B1	Civil engineers	16	3
B2	Electrical engineers	16	3
C	Natural scientists and mathematicians (except C1,C171/2)	17/18	15
C1	Biologists and life scientists	18	6
C171	Computer scientists	171	7
C172	Computer programmers	171	7
D19	Social scientists and urban planners	19	5
D20	Social, recreation, and religious workers	20	5
D21	Lawyers and judges	21	15
E22	Teachers (college, university, and other postsecondary)	22	2
E23	Teachers except postsecondary	23	2
E24	Vocational and educational counselors	24	2
E25	Librarians, archivists, curators	25	15
F26	Physicians and dentists	26	4
F27	Veterinarians	27	4
F28	Other health diagnosing and treating practitioners	28	4
G29	Registered nurses	29	4
G30	Pharmacists, dietitians, therapists, and physician's assistants	30	4
H	Writers, artists, entertainers and athletes (except H1)	32,33,34	9
H1	Editors, reporters, public relations, announcers, TV, Radio	33	8
I	Health technologists and technicians	36	4
J37	Engineering and related technologists and technicians	37	10
J38	Science technologists and technicians	38	10
J39	Technicians except health, engineering, and science	39	10
K	Marketing and sales	40-44	13
L	Administrative support occupations including clerical	45,46,47	11
M	Service occupations	50,51,52	14
N	Agricultural, forestry, and fishing	55-58	6
O	Mechanics and repairers	60,61	12
O611	Vehicle and mobile equipment mechanics and repairers	611	12
O615	Electrical and electronic equipment repairers	615	12
P	Construction and extractive occupations	63,64,65	12
Q	Precision production occupations	67,68,69	12
R	Production working occupations	71-78	12
S	Transportation and material moving occupations	81,82,83	12
S821	Motor vehicle operators	821	12
T	Handlers, equipment cleaners, helpers, and laborers	85,86,87	12
U	Military occupations	91	15
V	Miscellaneous occupations	99	15
Y	Housewife	-	16
Z	Unemployed, retired, disabled, or not classifiable	-	16

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